RAILWAY LANDS PART II:
REPORT ON ENVIRONMENTAL AGREEMENT FOR PRECINCT "A" (THE STADIUM PRECINCT)

CITY OF TORONTO PLANNING AND DEVELOPMENT DEPARTMENT
STEPHEN G. McLAUGHLIN, COMMISSIONER

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CITY OF TORONTO
PLANNING AND DEVELOPMENT DEPARTMENT

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February 26, 1985

To: Land Use Committee

Subject: Environmental Agreement for Precinct "A" (the Stadium Precinct) in the Railway Lands

Origin: Commissioner of Planning and Development (c71luc86098:81) (86/agree/002:81)

Comments:

1. Introduction:

On February 13, 1986 your Committee held a public meeting on my report dated January 11, 1986 and entitled Final Report on Rezoning Application No. 11857 to permit the construction and use of an urban stadium and multi-purpose facility and non-residential and residential buildings in Precinct "A" (The Stadium Precinct) in the Railway Lands (hereinafter referred to as the Final Report for the Stadium Precinct.) Appendix 4 of this report contained a draft by-law to amend the Railway Lands Zoning By-law to permit the development of the Stadium Precinct in accordance with the provisions of the Railway Lands Part II Plan.

In addition to the Stadium Precinct By-law, the development control strategy for the Stadium Precinct involves two other documents - a Precinct Agreement and an Environmental Agreement. Sections 11.12(o) and 11.12(q) of the Railway Lands Part II Plan require that forms of these agreements must be submitted as part of the rezoning application for the Stadium Precinct. Section 11.12 also requires that these two agreements be executed by the applicant prior to Council's enactment of a Stadium Precinct By-law. It was because of this requirement that the Final Report recommended that a bill to give effect to the Stadium Precinct By-law not be introduced into Council until your Committee had received and forwarded to Council my reports on the Precinct and Environmental Agreements.

Because of the time required to resolve the many complex issues associated with these agreements, they were not in final form in time to be considered at the February 13th public meeting. Consequently, after deputations were heard on the Final Report, that meeting was adjourned, pending your Committee's receipt of my reports on the two agreements, including copies of the agreements themselves.

The agreements are now in virtually final form, and I am therefore submitting them to your Committee, on the understanding that final copies, executed by CN and incorporating minor revisions as the result of a final circulation, will be submitted to City Council prior to its enactment of the Stadium Precinct By-law. This report deals with the Environmental Agreement, and an accompanying report deals with the Precinct Agreement.

2. Background and Purpose of this Report.

2.1 Background

On September 16, 1985, CN supplemented its July 3, 1985 rezoning application for the Stadium Precinct by the submission of two documents entitled Railway Lands Precinct "A" Supporting Documentation and Railway Lands Precinct "A" Environmental Report. (Notwithstanding that it was submitted on September 16, the Environmental Report was dated May, 1985.) These documents were circulated in accordance with Section 11.14 of the Part II Plan, and the comments received were included in Appendix 3 of the Final Report on the Stadium Precinct. The comments included in the Final Report which are specifically relevant to the Environmental Report have been reproduced in Appendix 2 to this report. Appendix 2 also includes comments received to the various revisions and supplements to the Environmental Report as originally submitted.

On December 10, 1985, CN further supplemented its July 3, 1985 rezoning application by the submission of a form of Environmental Agreement. This draft agreement was reviewed with representatives of the Medical Officer of Health and the Ministry of the Environment and was the basis for several redrafts of the agreement which culminated in the version of the Environmental Agreement contained in Appendix 3 of this report. These redrafts were prepared in consultation with CN and its consultants, the Commissioner of Public Works, the Medical Officer of Health, the Ministry of the Environment and DelCan Ltd., the consulting firm which produced the "Environmental Overview Study for the Railway Lands Steering Group."

Copies of a draft of the agreement substantially in the form of the draft included in Appendix 3 to this report were forwarded to CN, the Commissioner of Public Works, the Medical Officer of Health, the Metropolitan Commissioner of Planning and the Ministry of the Environment. None of these parties has advised me of any major substantial concern with the agreement, with the exception of CN, who has expressed concern with Section 23. (This section is accordingly underlined and marked with the symbol +.)

Included in the draft of the agreement contained in Appendix 3 are certain recommended changes received immediately following this circulation. I will be reporting on other comments received as the result of the circulation to your committee, and as noted above, will also be submitting a final version of the agreement, incorporating any final changes and executed by CN.

Copies of this report, with the agreement attached, also have been forwarded to all those officials to whom the original rezoning application was circulated in September, 1985.

Any provision included in Appendix 3 which is underlined and marked with the symbol * is currently under discussion with CN. As previously noted, CN objects to Section 23, which is marked with the symbol +.

2.2 Purpose of this Report

The primary purposes of this report are:

(a) to indicate the manner in which the concerns raised as the result of the circulation of the original Environmental Report have been dealt with, both in revisions to the report and in the Environmental Agreement; and

(b) to describe the contents of the Environmental Agreement.

The report recommends:

(a) that, pending receipt of a final copy of the Environmental Agreement which responds to concerns received subsequent to your Committee's receipt of this report and which has been executed by CN, Council approve the agreement and authorize its execution at the time stipulated in the Commencement Date Section of the agreement; and

(b) that Council not adopt the Stadium Precinct By-law until it has received the final copy of this agreement executed by CN.

Like the Precinct Agreement, the Environmental Agreement will commence upon the date of its execution, but will not come into effect until after the Stadium By-law and any City obligations requiring Ontario Municipal Board approval have been approved by the Board. As a result, developments which are permitted under the existing zoning may proceed prior to the actual coming into effect of the agreements. (These developments are the new Metro Pumping Station and, possibly, the Telesat facility permitted in Tower Park and described in Section 3 of my accompanying report on the Precinct Agreement). In order to ensure that these developments are

governed by provisions corresponding to those contained in the Environmental Agreement, this report also recommends:

(c) that, in addition to being subject to Section 40 Development Agreements, any developments which proceed in advance of the coming into effect of this agreement also be subject to Special Environmental Agreements containing provisions respecting any relevant environmental matters dealt with in the Environmental Agreement for Precinct "A".

3. Environmental Report

Section 9 of the Railway Lands Part II Plan states Council's intention to ensure that "satisfactory environmental conditions consistent with those elsewhere in the Central Area are established for people working and living within and adjacent to the Railway Lands," and outlines a procedure for realizing this goal. (A copy of Section 9 is included in Appendix 1 to this report.) This procedure relies on the preparation, in consultation with the City, the Local Board of Health and the Ministry of the Environment, and submission by the proponent of the development of each precinct in the Railway Lands of an Environmental Report dealing with the seven specific issues set out in Section 9.1 of the Plan. (See Appendix 1 of this report.) Section 9 further provides that the safeguards and measures set out in the Environmental Report are to be secured through an Environmental Agreement. The Environmental Report and the Environmental Agreement are to be satisfactory to both the City and the Ministry of the Environment.

The Environmental Report for Precinct A (the Stadium Precinct) submitted as part of CN's application on September 16, 1985 was produced by Bruce Brown Associates Ltd. It contains six sections prepared by the following consultants:

Section 1: Introduction - Brown Associates Ltd.

Section 2: Noise and Vibration - Valcoustics Canada Ltd.

Section 3: Prelimianry Microclimatic Studies (pedestrian level winds, air quality and sun/shade) - Morrison-Hershfield Ltd.

Section 4: Subsoils Investigations and Contaminant Studies - Brown Associates Ltd.

Section 5: Stormwater Management and Stormwater Quality - Brown Associates Ltd.

Section 6: Risk Assessment - Brown Associates Ltd.

The topics of these sections correspond to the first six of the seven issues which Section 9.1 of the Part II Plan states that the Environmental Report should address. The seventh - "ensuring that the practices and procedures followed during construction of development in the Railway Lands are environmentally sound" - is dealt with as part of Sections 4 to 6, inclusive.

The Environmental Report is associated with the second of three stages at which environmental matters are dealt with in the Railway Lands. These three stages comprise:

(a) The Railway Lands as a whole;

(b) the precinct; and

(c) the individual development proposal.

The first stage included the production by DelCan Ltd. of the report dated November, 1985, and entitled Environmental Overview Study for Railway Lands Steering Group. This report relied on existing data to examine and describe the environmental conditions which affect the Railway Lands in their entirety. The Environmental Report for the Stadium Precinct deals with the issues described in the Overview Study in much greater depth, and includes new data based on field work and empirical tests.

One of the primary purposes of the Environmental Agreement is to ensure that the environmental issues described in the Environmental Report will be satisfactorily dealt with at the third stage, when specific development proposals are put forward.

In dealing with environmental matters, it was decided that the Environmental Report has an important long term role to play in guiding the development of the Stadum Precinct. It contains valuable factual information respecting environmental conditions obtained as the result of empirical investigation and study, as well as conclusions and recommendations respecting how these conditions should be dealt with. It is, in other words, an important source for future studies and recommendations resepcting developments in the Precinct. For this reason, considerable effort was made to ensure that deficiencies in the Environmental Report identified through the circulation process were corrected through CN's submission of revised and supplementary material prior to the preparation of a final draft of the Environmental Agreement.

As a result of this approach, the Stadium Precinct Environmental Report, as revised and supplemented, is a comprehensive document which will have an important function as development in the

Precinct proceeds, and the Environmental Agreement specifically acknowledges this fact.

4. Circulation of and Revisions and Supplements to the Environmental Report

As noted above, copies of the Environmental Report submitted on September 16, 1985 were circulated for review and comment as part of CN's Precinct "A" rezoning application. The following summary of the responses received indicates how the concerns raised have been dealt with, both in revisions to the report and in the Environmental Agreement.

4.1 Medical Officer of Health

The main concerns raised by the Medical Officer of Health to the Environmental Report as originally submitted are set out in the recommendations of his October 7, 1985 report, (Item 1(a) in Appendix 2), and can be summarized as follows:

(a) need for additional air quality analysis of particulate pollution (TSP - total suspended particulates), contributions to gaseous pollutant estimates from major transportation arteries and point sources, and suggested mitigation measures where appropriate;

(b) consultation with the Medical Officer of Health concerning terms of reference for Soil and Groundwater Quality Management Programs; and

(c) inclusion in the Environmental Agreement of the stormwater management guidelines proposed in the Environmental Report.

Two additional issues are raised in the body of the Medical Officer of Health's report:

(d) the desirability of constructing unsealed buildings; and

(e) objections to the possible delaying of residential construction in the Stadium Precinct as the result of the lack of a permanent roof for the stadium.

(a) Additional air quality analysis

Subsequent to Council's approval of the Medical Officer of Health's October 7, 1985 report, the Environmental Report was supplemented by a January 10, 1986 supplement which addressed the concerns raised by the Medical Officer of Health and the Ministry of the Environment. This January 10th update was subsequently bound into a revised version of the Environmental

Report dated January 3, 1986, which was circulated to the Medical Officer of Health.

The "Microclimatic Studies" Section was further supplemented by the submission of a "Numerical Air Quality Assessment of the Stadium Area and Tower Park", dated February 3, 1986, which was also forwarded to the Medical Officer of Health.

On February 7, 1986, I received a draft report from the Medical Officer of Health based on the update contained in the revised version of the Environmental Report dated January 3, 1986. This draft report indicated that the revised Environmental Report was a great improvement over the original and dealt satisfactorily with many of the air quality concerns expressed in the Medical Officer of Health's October 7, 1985 report. However, the draft report noted that new concerns were raised by the revised Environmental Report respecting sulfur dioxide pollution from Toronto Refiners and Smelters; possible lead pollution impacts on the Niagara Neighbourhood as the result of downwashing from the Toronto Refiners and Smelters stack, once tall buildings are constructed in the Stadium Precinct; and the need to incorporate dust control measures into the Environmental Agreement.

All three of these concerns are dealt with in the Environmental Agreement contained in Appendix 2 to this report. Section 9 of the agreement requires that prior to, or concurrent with, the submission of the first application for site plan approval for a development proposal in the Precinct, CN is to submit a quantitative air quality study utilizing a physical model tested in a wind tunnel. This study would meet the Medical Officer of Health's desire for physical modelling to settle the question of the extent of sulfer dioxide pollution.

The physical model is also to include, in addition to a massing model of the Stadium Precinct, modelling of Toronto Refiners and Smelters and the area around it. This will permit a determination of whether downwashing from the Toronto Refiners and Smelters stack will actually occur, and, if so, under what conditions and to what extent.

In addition to Toronto Refiners and Smelters and the surrounding area, the model to be tested in this air quality study will include the TTR Steam Plant at 16 York Street so that the effects of its plume on the Stadium Precinct can be determined.

This comprehensive air quality study is to include recommendations for mitigation measures, and is to be reported

on to City Council by myself in consultation with the Medical Officer of Health and the Ministry of the Environment. Should the study determine that downwashing around Toronto Refiners and Smelters will cause increased pollution in the Niagara Neighbourhood, Council will have to consider what actions should be taken to deal with this problem. In this regard, it should be noted that the westerly extension of Front Street would require the expropriation of Toronto Refiners and Smelters, and, consequently, the elimination of any problems it creates. Other solutions could include increased control of emissions or other abatement measures directed at the source of the problem, which is Toronto Refiners and Smelters, rather than the new development proposed for the Stadium Precinct.

In terms of the issue of dust abatement, Section 24 (C) of the Environmental Report requires that the Environmental Consultant which the agreement requires be retained to monitor the development of the Precinct is to prepare recommendations for the control of dust during all excavation and construction work. In addition, the Environmental Consultant is to ensure that all contractors working in the Precinct are aware of these recommended measures, and to report to the Medical Officer of Health and the Ministry of the Environment on the extent to which they are followed.

(b) Consultation with the Medical Officer of Health respecting Soil and Groundwater Qualtiy Management Program

As discussed in more detail in my review of the recommendations from the Commissioner of Public Works (Section 4.2(b) below), the Environmental Agreement requires the retention of an Environmental Consultant who is to develop Soil, Groundwater and Stormwater Quality Management Programs to be submitted for the approval of the Commissioner of Public Works, following consultation with the Ministry of the Environment and the Medical Officer of Health. This provision responds to recommendation No. 2 of the Medical Officer of Health's October 7th report.

(c) Inclusion in the Environmental Agreement of stormwater management guidelines prepared in the Environmental Report

The "Stormwater Management and Stormwater Quality" Section of the Environmental Report, which was revised as of January 3, 1986, does not contain specific "guidelines" for stormwater management. However, the section does contain a set of specific conclusions respecting the management of stormwater. The development of a Stormwater Quality Management Program, testing and reporting on the quality of stormwater and

monitoring of stormwater management practices will be among the duties of the Environmental Consultant which the Environmental Agreement requires CN to retain. Also among the duties of the Environmental Consultant is his responsibility, as set out in Section 24(e), to obtain and review all relevant technical and analytical data, including, among other things, the Environmental Report. This requirement should ensure that the Environmental Consultant is aware of all conclusions, guidelines and recommendations in the Environmental Report, including the conclusions respecting stormwater management.

(d) Desirability of constructing unsealed buildings

Although I share the Medical Officer of Health's preference for natural ventilation for residential buildings, it is important that new buildings in the Stadium Precinct incorporatate the design features necessary to ensure satisfactory interior noise and air quality conditions. However, I have incorporated the Medical Officer of Health's recommendation that the fresh air supply in sealed buildings should be maximized into Section 10 of the Environmental Agreement, which calls for individual air quality studies for all buildings in the Stadium Precinct.

(e) Objections to possible delaying of residential construction

The "Noise and Vibration" Section of the Environmental Report as originally submitted raised the possibility that the Stadium might begin operation without a permanent roof, in which case it might generate noise levels which would make it incompatible with residential development in the Precinct. In the event that this happened, it was recommended that consideration be given to delaying the residential development. The Medical Officer of Health, in his October 7, 1985 report, expresses his concern with this suggested solution. Subsequently, however, a "Railway Land Stadium Noise Analysis" update was submitted. This submission, dated Janaury 27, 1986, established that, with the roof closed, noise from the stadium would have a negligible net impact of the noise environment. In addition, the update states clearly that there is no plan to utilize a temporary roof structure. On the basis of these conclusions, it is likely that as long as the roof remains closed, the Stadium can be compatible with adjacent residential development.

However, noise generated by the Stadium with the roof open could be a problem for adjacent residential development. The January 27th update to the Environmental Report recommended that this issue be dealt with by restricting the hours during which activities which would have an adverse affect could take

place with the Stadium roof open. I have discussed this proposal with officials of the Ontario Stadium Corporation and CN, who have stated that they cannot agree to such a restriction in advance of tests to determine the extent of the problem. Consequently, Section 8 of the Environmental Agreement requires that a qualified and experienced noise consultant be retained to monitor the first year of operation of the stadium, and, at the end of this first year, to produce a report setting out the conditions observed and any recommended abatement measures.

4.2 Commissioner of Public Works

Comments from the Commissioner of Public Works respecting the Environmental Report as originally submitted are included in Section 2 of his October 18, 1985 memorandum which is included as item 2(a) in Appendix 2 to this report. Following his receipt of a revised version of the Environmental Report, the Commissioner submitted the letter included as item 2(b) in Appendix 2, indicating that his only comments remained those he had made in Recommendations 12 to 14, inclusive, of his October 18, 1985 memorandum. These recommendations are:

(a) that a Noise Impact Statement be submitted for each project in the Stadium Precinct;

(b) that evidence be submitted to the Commissioner of Public Works that the Ministry of the Environment has approved terms of reference for a Soil and Groundwater Quality Management Program for each development prior to the issuance of a building permit for the development; and

(c) that evidence be provided to the Commissioner of Public Works that underground structures have been designed with adequate protection against agressive soil conditions.

(a) Noise Impact Statements

The Commissioner of Public Works' recommendation that Noise Impact Statements be required has been followed in the drafting of the Environmental Agreement.

(b) MOE approval of terms of reference for Soil and Groundwater Quality Management Programmes

The "Sub-soils Investigations and Contaminant Studies" Section of the Environmental Report recommends that terms of reference for Soil and Groundwater Quality Management Programs for each development be included in the Environmental Agreement in order to monitor demolition and site preparation, the

installation of services, the dewatering and excavation of development sites and the reuse or disposal of excavated materials. The report also recommended that this monitoring program be carried out by a "suitable firm or individual" with prime expertise in the field of soil and groundwater management, as well as experience in construction supervision. The report envisaged that general terms of reference for this environmental management program be appended to the Environmental Agreement, and revised as necessary to deal with the particular circumstances prevailing at a given site.

The Environmental Agreement requires the retention of an Environmental Consultant, at CN's expense, to perform the monitoring duties described in the Environmental Agreement. Among these duties is the development and implementation of Soil, Groundwater and Stormwater Quality Management Programs for development in the Precinct to be submitted for the approval of the Commissioner of Public Works, following consultation with the Ministry of the Environment and the Medical Officer of Health. The approach of developing general Programs to cover the entire Precinct, rather than specific terms of reference for each development, is satisfactory to the Ministry of the Environment. While the procedure for obtaining approval of these Quality Management Programs is not exactly that recommended by the Commissioner of Public Works, it will ensure that the Commissioner of Public Works will be fully informed of the Quality Management Programs and their status with the Ministry.

(c) Protection against agressive soil conditions

Recommendation No. 14 of the Commissioner of Public Works, as it affects public infrastructure, has been dealt with in the provisions included in Section 3 of the Precinct Agreement, which require that the design of all infrastructure be to the standards and specifications of the Commissioner of Public Works.

In addition, I have confirmed with officials in the Department of Buildings and Inspections that procedures followed during the inspection of engineering drawings submitted as part of a building permit application will undoubtedly ensure that all underground structural components of individual development proposals will be satisfactorily protected against aggressive soil conditions. For these reasons, it is unnecessary to include the requirement of Recommendation No. 14 in the Environmental Agreement.

4.3 Ministry of the Environment

The concerns raised by the Ministry of the Environment to the Environmental Report as originally submitted are set out in the letters of November 7, 1985, and included as Item No. 3(a) in Appendix 2 to this report. These can summarized as follows:

(a) noise concerns related to the High Line, Go-Transit technology, the Stadium, mitigation techniques for residential buildings and the standard for outdoor recreation space;

(b) limitations in air quality studies;

(c) recommendation for detailed soils management strategy and retention of full-line "environmental inspector on-site"

(d) requirements for additional stormwater information; and

(e) questions regarding proposed new storm sewer discharging into the Rees Street Slip.

(a) Noise concerns

To a large extent, the noise-related concerns raised in the Ministry's November 7, 1985 letter have been addressed in the January 27th "Railway and Stadium Noise Analysis" supplement to the Environmental Report. With resepct to the possibility that the High Line might not be relocated at the time that residential development is constructed, the update begins by emphasizing the objectives of a permanent relocation of the High Line, the retention of the embankment and its conversion to a linear park, as dicussed in my accompanying report on the Precinct Agreement.

However, as the result of analysis of noise and vibration emissions associated with the retention of the High-Line, the update concludes that it would be feasible to proceed with residential development in the Precinct before the High Line is relocated, and that the presence of the High Line would not require the noise mitigation measures beyond those required to deal with traffic noise. Such mitigation measures will be examined in the Noise Impact Statement required by Section 3 of the Environmental Agreement, and the post-construction check required by Section 5 will ensure that these mitigation measures are correctly implemented and, if necessary, that they be supplemented.

In addition to its analysis of the noise impact of the High Line, the January 27th date recommends that, for both noise and risk reasons, operating speeds on the High Line be limited

to 30 to 35 kph in the event that residential development proceeds prior to relocation. It has not been possible to incorporate such a strict requirement, which would require CTC approval, into the Environmental Agreement. Section 6 of the agreement does include, however, a statement of CN's acknowledgement that such a reduction may be necessary. An actual decision on the appropriate speed for trains on the High Line tracks would have to be made by the CTC itself.

The other noise issues raised in the Ministry's November 7, 1985 letter were also satisfactorily dealt with in the January 27th date, with the result that the only remaining noise issue noted in the Ministry's February 3rd response to the revised Environmental Report is the impact of noise from the Stadium when the roof is open on adjacent residential uses. I have addressed this issue in my comments on the concerns of the Medical Officer of Health in Section 4.1(e) above, where I noted that the Environmental Agreement calls not only for Noise Impact Statements and post-construction follow-up inspections for the Stadium and adjacent buildings, but also for a monitoring program during the first year of the Stadium's operation.

(b) Limitations of air quality studies

The comments of the Ministry with respect to the deficiencies in the air quality studies included in the original Environmental Report are similar to those raised by the Medical Officer of Health, and are discussed in Section 4.1(a) above. As noted in that Section, Section 9 of the Environmental Agreement requires the submission of a comprehensive study, including physical modelling and wind tunnel testing, of air quality conditions in the Stadium Precinct, and of the possible impact on the area around Toronto Refiners and Smelters of new development in the Precinct. The model will also include the TTR Steam Plan at 16 York Street, another point since identified by both the Ministry and the Medical Officer of Health as requiring further study to determine its impact on the Stadium Precinct.

This Precinct-wide air quality study will also include the impact of fumes from buses servicing the Stadium, in response to item No. 2 in the Ministry's February 3rd letter (item 3(b) in Appendix 2).

(c) Recommendation for detailed soils management strategy and retention of "environmental inspector"

The November 7, 1985 letter indicates the Ministry's agreement with the major findings of the soils studies included in the

Environmental Report, as well as the principle of reusing excavated materials as fill on site, rather than transporting them for disposal offsite - subject, of course, to the requirement that the excavated soils are suitable in quality and structural properties for use as on site fill.

The Ministry's letter also supports the general suggestions in the Environmental Report respecting on-site evaluation of soils and the retention of an individual or firm to act as an on-site environmental consultant - or, in the Ministry's words, an "environmental inspector".

(Notwithstanding the Ministry's endorsement of the soils information contained in the originally submitted Environmental Report, Brown Associates Ltd. has updated its soils studies by the inclusion in the Environmental Report of the results of additional analysis and field work, as well as historical information respecting previous uses on the site.)

In general, the conclusions and recommendations in the "Subsoils Investigations" Section of the Environmental Report, and the Ministry's comments on these, have had a major impact on the drafting of the Environmental Agreement. In particular, the agreement requires the retention of an on-site Environmental Consultant to develop and obtain approval for Soil, Groundwater and Stormwater Quality Management Programs; to provide effective field supervision with respect to environmental matters during demolition, excavation and construction; to carry out, record and report on tests and analysis of soils and grundwater; to recommend appropriate means of disposing of and reusing excavated soils, of managing groundwater and stormwater and of controlling dust; and, in general, to ensure that the redevelopment of the Precinct proceeds in a safe and environmentally sound manner. Through his reports, the Environmental Consultant will provide CN, the Medical Officer of Health, the Commissioners of Public Works and Planning and Development, and the Ministry of the Environment with up-to-date information respecting environmental matters on the site as development proceeds.

The inclusion of this environmental monitoring also satisfies the Ministry's recommendation that the agreement "incorporate a detailed soils management strategy." In addition, I have been advised by officials at the Ministry that the soils tests and analyses which are referred to in these provisions of the agreement dealing with the Environmental Consultant and the monitoring program will fulfil the Ministry's requirement, set out in its February 3rd letter, for "further and more detailed" soils studies.

(d) Requirement for additional information on stormwater

Subsequent to the request for additional information respecting stormwater management, the "Stormwater Management and Stormwater Quality" Section of the Environmental Report was revised and resubmitted. Following its review of the revised Environmental Report, the Ministry has indicated (Item No. 6 in its February 3rd letter) that the report now represents an acceptable overview with a level of detail which is satisfactory provided, (as in the case of soils) that "further and more detailed tests are triggered by the Environmental Agreement." I have been advised by Ministry staff that the Stormwater Quality Management Program and the on-going monitoring to be carried out by the Environmental Consultant will satisfy this requirement for additional testing.

(e) Concern regarding the location of stormwater discharge into the Rees Street Slip

In Section 5 of its November 7, 1985 letter, the Ministry questions whether the location of a proposed new storm sewer discharging into the Rees Street Slip is satisfactory. Recent discussions with staff of in the Ministry indicate that this issue has been resolved to the Ministry's satisfaction. Provisions respecting the construction of this new storm sewer are included in Sections 5.06(1) and 5.06(3) of the Precinct Agreement.

4.4 Toronto Terminal Railways (TTR)

TTR concerns relevant to the Environmental Report and agreement are raised in Item No. 6 in the December 30, 1985 letter from Mr. G.H. Geddis(Item 4 in Appendix 2 to this report). These concerns include:

(a) the area covered by the Environmental Report;

(b) the impact of proposed buildings and structures in the Stadium Precinct on snow control in the TTR rail corridor; and

(c) effects on visibility in the TTR rail corridor as a result of a "strobing" effect from shadows cast by new development and of glare from the Stadium and its lighting system.

(a) Area covered by the Environmental Report

It is suggested in the TTR letter that the Environmental Report not be limited to Precinct "A" but instead study the overall effect of planned development on the entire rail

corridor area of the Railway Lands. This suggestion, however, runs counter to the development strategy set out in Section 11 of the Part II Plan. This strategy is based on the division of the Railway Lands into defined precincts, including Precinct "A", each of which is to be studied and planned as a unit prior to the release of its development rights. The specific concerns raised by the TTR can be examined on a precinct by precinct basis consistent with this development strategy, which has been approved by Council as part of the Part II Plan.

(b) Snow Control

The TTR letter raises a concern about the impact of proposed structures and buildings over and/or adjacent to the railway corridor on the control of snow accumulation in the corridor. This concern emerges that the TTR's experience of switch malfunctions as the result of snow drifting into switch points. The TTR is concerned that snow accumulations resulting from new development adjacent to the corridor will exaccerbate this problem.

This issue was the subject of a study dated December 9, 1983 and entitled "Snow Control Study of West Ladder Area, Union Station, Toronto, Ontario." The study was prepared by Morrison-Hershfield Ltd. for the TTR, and included the testing of a scale model of the rail corridor area generally between the proposed extensions of Simcoe and Peter Streets, including a generalized stadium massing model. The study concluded that the construction of the stadium will reduce the impact on the study area of the CN Tower, but will increase wind speeds on the west side of the John Street pedestrian bridge and increase snow accumulations.

In addition to the possibility of increasing the height of the John Street bridge, the study identified two options for dealing with the problem of snow accumulation in the rail corridor: the addition of a canopy to the lower east side of the bridge, and the use of coniferous landscaping to collect snow on the elevated plaza area of the John Street Corridor component of the Stadium. The report recommended that "at the appropriate time, the effect of the final dome design should be investigated in detail and if possible some of the ideas suggested by this study should be further examined." Section 15 of the Environmental Agreement included in Appendix 3 requires that such a snow study be carried out in conjunction with applications for site plan approval for both the Stadium and the major commercial building proposed to be located immediately west of the stadium.

(c) Visibility in the TTR rail corridor

The TTR letter raises concerns with respect to a "strobing effect" which could possibly be created as trains move from unshadowed areas to areas shadowed by bridges and buildings; and to the effects of glare from the stadium structure and its lighting system on the rail corridor. In both instances, the concern is with the impact on visibility within the rail corridor.

In terms of the first of these concerns, I am not aware that existing developments adjacent to the rail corridor have resulted in "strobing" problems such as those described in the TTR letter. In addition, trains in this area will be travelling at reduced speeds as they approach Union Station, which would reduce the possibility that such a "strobing" effect might occur . However, the possibility of impaired visibility in the rail corridor is an important concern, and consequently, Section 16 of the Environmental Agreement provides that Sun/Shade Studies required for all development proposals in the Stadium Precinct examine the effect of shadows cast by the proposals on the rail corridor, and recommend solutions to any shadowing problems that could arise.

In response to the second concern, Section 8 of the agreement requires that the application for Site plan approval for the Stadium be accompanied by a study of the effects of the stadium and its lighting system on the rail corridor. This study is to suggest remedial measures if required. In addition, Section 8 requires that the impact of the Stadium lighting system be monitored during the first year of operations in order to identify any adverse affects and to identify mitigation measures.

5. Environmental Agreement

5.1 General Purpose and Structure of the Agreement

As noted in Section 2.1 above, a first draft of the Environmental Agreement was formally submitted by CN on December 10, 1985. Subsequent redrafts were prepared by CN and the City, having regard for the comments received in response to circulation of the Environmental Report, and in consultation with the Ministry of the Environment; the Medical Officer of Health; Bruce A. Brown Associates Ltd., the Consultant who produced CN's Environmental Report; and DelCan Ltd., the Consultant who prepared the November 1984 Railway Lands "Environmental Overview Study".

Unlike the Precinct Agreement, which imposes obligations and responsibilities on both the City and CN, the Environmental Agreement is essentially a document setting out the requirements to be met by CN and any successors in title or interest who make applications for Site Plan Approval pursuant to Section 40 of the Planning Act. In general terms, these requirements fall into two categories - the up-front requirements for studies and other submissions which must be made in the context of applications for site plan approval for specific developments for sit eplan approval for specific developments; and the requirements for an on-site Environmental Consultant and an on-going environmental monitoring process to be carried out during all demolition, excavation and construction work in the Precinct. Both categories of requirements have emerged from the information contained in the Environmental Report and as the result of the circulation of this report, as discussed in Section 4 above.

In most instances, the specific studies and submissions required in conjunction with development applications deal with siting and design issues, such as noise and air quality mitigation measures, which can be dealt with only at the level of a specific development proposal. However, in addition to these development-specific requirements, the agreement also calls for additional precinct-wide quantitative physical modelling studies necessary to supplement the information included in the Environmental Report. In the case of pedestrian level winds, the physical modelling study is required to deal quantitatively with an issue which was dealt with only qualitatively in the Environmental Report. In the case of air quality, the physical modelling study is required to examine issues which could not be conclusively resolved on the result of the numerical air quality assessment submitted as a supplement to the Environmental Report. In both instances, these studies will provide the context for additional physical modelling studies of specific development proposals.

5.2 Description of Environmental Agreement

The preceeding discussion of the responses received from the circulation of the Environmental Report and revisions and supplements to it dealt with the purposes of many provisions of the Environmental Agreement. The following account is therefore essentially a brief descriptive guide to the agreement. As noted previously, those provisions in the agreement contained in Appendix 3 which are underlined and marked with the symbol * are still under discussion with CN. In addition, CN is objecting to Section 23, respecting CN's responsibilities for all fees for the Environmental Consultant and Specialist Environmental Consultant, and this section has been underlined and marked with the symbol +.

Section 1: Definitions

Section 1 contains definitions of all terms used in the Agreement. Most of these terms are quite straightforward, and are defined in order to ensure clarity in interpreting the agreement. Special attention should be given to the term "Environmentally Unsound Condition". This term is used to define conditions which are to be avoided, eliminated or mitigated through the requirements and procedures set out in the agreement. In order to achieve a degree of certainty respecting such conditions, the term is defined with reference to environmental guidelines, criteria and standards which are applicable to the City or the Province. These guidelines, criteria and standards would include those contained or referred to in Schedule C of the Agreement, as well as any criteria, guidelines or standards applied by the Ministry of the Environment. The definition would also include other established standards or criteria, such as those applied by the Metro Commissioner of Works and the City Commissioner of Public Works in regard to discharges into the sewer system.

Sections 2-8, inclusive: Noise, Vibration and Stadium Lighting

These sections require the submission of site specific Noise Impact Statements (including vibration) in conjunction with applications for site plan approval (development review applications) for individual development proposals in the Precinct. Section 4 requires that any mitigation measures recommended in such a Noise Impact Statement be shown on the plans submitted as part of a building permit application, and Section 5 requires a post-construction check-up to ensure that the measures have been implemented, to identify any deficiencies and to recommend corrections as necessary.

Section 6 applies only to the Stadium and requires that the application for site plan approval for the Stadium be accompanied by a study of the impact of Stadium lighting on adjacent land uses and the rail corridor.

Section 8 establishes programs to monitor the impact of sound and light emitted by the Stadium under different conditions during its first year of operations, and to make recommendations for measures to mitigate any adverse affects on adjacent land uses. These monitoring programs are particularly relevant to the objective of ensuring that the Stadium operates in a manner which is compatible with residential land uses in the Precinct.

Sections 9-12, inclusive: Air Quality

Section 9 requires CN to submit a precinct-wide Air Quality Study based on a physical model of the Precinct tested in a wind tunnel.

The model will also include the TTR Steam Plan and Toronto Refiners and Smelters and a study area around it to be identified by the consultant who carries out the study. The purpose of the study, as discussed in the context of comments from the Medical Officer of Health and the Ministry of the Environment, is to settle the issue of air quality conditions affecting the Precinct, particularly in relation to the TTR Steam Plant and Toronto Refiners and Smelters. The study will also examine the effect of tall buildings in the Precinct on conditions around Toronto Refiners and Smelters. These issues have already been dealt with in a numerical assessment submitted as a supplement to the Environmental Report, but the conclusions of this study were not definitive. The study is to be reported on to Council prior to Council's consideration of the report on the first application for site plan approval for a development proposal in the Precinct.

Individual air quality studies are also required to be submitted in conjunction with applications for site plan approval for individual development proposals, including recommendations for mitigation measures. (Section 16) These mitigation measures are to be shown on plans submitted with building permit applications (Section 11). Post-construction check-ups are also required (Section 12).

Sections 13-16 inclusive: Pedestrian Level Winds, Rail Corridor Snow Study and Sun/Shade Studies

Section 13 requires CN to submit, prior to or concurrent with the first application for site plan approval for a development proposal in the Precinct, a precinct-wide Pedestrian Level Wind Study, utilizing a physical model of the Precinct tested in a wind tunnel, with recommendations for eliminating any adverse wind conditions. This study will also have regard for the maintenance of north-south passages for lake breeze ventilation, which was identified as a microclimatic objective in the November 1984 "Environmental Overview Study".

A qualitative wind study was included in the "Microclimatic Studies" Section of the Environmental Report, based on the Concept Plan submitted with CN's application. Based on that study, it is not anticipated that the physical modelling will result in major massing changes, but it will provide an opportunity for massing refinements, and will establish a context for future wind studies of individual development proposals, as required by Section 14.

Section 15 requires the submission of snow control studies in conjunction with applications for site approval for the Stadium and the development proposal west of the Stadium. These two developments will affect snow conditions in the rail corridor, and

the studies regard to concerns raised by the TTR and discussed in Section 4.4(b) above.

Section 16 requires the submission of sun/shade studies in conjunction with applications for site plan approval. Among other things, these studies are to examine the impact of shadows cast by developments in the Precinct on the Stadium playing field and on the TTR rail corridor.

Sections 17-18 inclusive: Telesat

As discussed in Section 4.6 of my accompanying report on the Precinct "A" Precinct Agreement, there is a possibility that Telesat Canada will locate a teleport in Tower Park East. Sections 17 and 18 of the Environmental Agreement require that the application for site plan approval for a Telesat facility be accompanied by a study indicating that the relevant safety standards are met, and that the building permit plans for the facility be certified as including any measures recommended in the study.

The Telesat facility is examined in Appendix B to the "Risk Analysis" section of the February 3, 1986 version of the Environmental Report.

Sections 19-31 inclusive: Soils, Environmental Consultant and Soils, Groundwater and Stormwater Quality Management

Section 19 of the agreement requires that no excavation or construction work undertaken after the agreement comes into effect (on the Commencement Date) is to commence until Soil, Groundwater and Stormwater Quality Management Programs for the Precinct have been approved by the Commissioner of Public Works, after consultation with the Ministry of the Environment and the Medical Officer of Health. The purpose of these programs are discussed in Sections 4.2(b) and 4.3(c) of this report.

Sections 20-23 deal with the selection and payment of the Environmental Consultant and the Specialist Environmental Consultants in the fields of Soil and Water Quality Control, to whom, in the event of any dissatisfaction, recommendations and reports of the Environmental Consultant may be referred by any parties who receive them.

The Environmental Consultants are to be chosen by the Commissioner of Planning and Devleopment, in consultation with the Commissioner of Public Works, from lists prepared by CN. CN is to afford the Ministry of the Environment an opportunity to comment on these lists.

Section 23 provides that all fees for the Environmental Consultant and Specialist Environmental Consultant are to be paid by CN, and not to be included in infrastructure costs to be shared by CN and the City. CN is objecting to this provision, and I will be reporting on this matter at the time that a final version of the agreement is submitted to your Committee.

Section 24 outlines in detail the main responsibilies of the Environmental Consultant. Among these duties are the preparation of Soil, Groundwater and Stormwater Quality Management Programs and the responsibility both (i) for ensuring that CN, all applicants for site plan approval and all contractors working in the Precinct are aware of the Programs, and (ii) for advising these parties on the recommended procedures contained in the Programs.

In general, Section 24 provides that the Environmental Consultant, in addition to fulfilling the duties associated with the development and dissemination of Quality Managmeent Programs, is to conduct ongoing tests and analyses of soils, groundwater and stormwater; to monitor the Quality Management Programs; to record and report on the excavation, disposal and resuse of soils, on the management of groundwater and stormwater, on demolition, excavation and construction procedures, and on other environmental matters to CN, the Ministry of the Environment, the Medical Officer of Health and the Commissioners of Planning and Development and Public Works; and generally to ensure that the development of the precinct proceeds in an enviromentally sound manner, consistent with the relevant environmental guidelines, criteria and standards, including those respecting soils, groundwater and stormwater contained or referred to in Schedule C to the agreement.

Section 26 sets out the procedures to be followed by the Environmental Consultant in reporting on all potential or actual Environmentally Unsound Conditions which he identifies in the precinct.

Sections 27 and 28 deal with the issuing of recommendations respecting Environmentally Unsound Conditions and the reporting to CN, the Ministry, the Medical Officer of Health and the Commissioners of Planning and Development and Public Works of the extent to which these recommendations have been followed.

Sections 29 and 36 deal with the process for appealing reports and recomendations of the Environmental Consultant to a Specialist Environmental Consultant.

Section 31 sets out CN's responsibility for ensuring that all contractors are aware of the Environmental Agreement and the

duties of the Environmental Consultant and will co-operate with the Environmental Consultant. This section also obliges CN to ensure that emergency vehicle access to the rail corridor is maintained at all times.

In addition to the guidance and direction he provides on-site and his monitoring, testing, recording and reporting duties, the Environmental Consultant will provide the Ministry of the Environment, the Medical Officer of Health and the Commissioners of Planning and Development and Public Works with invaluable information respecting development practices and procedures and environmental conditions on-site throughout the development of the Precinct. The Environmental Consultants Routine and Special Reports to the Ministry of the Environment and the Medical Officer of Health will mean that officials of these agencies will be aware of conditions which may make their intervention, under the relevant statutory authority, appropriate.

Sections 32-35 inclusive: Statutory Authority for Agreements.

These sections refer to the statutory authority under the City of Toronto Act for agreements between the City and any person respecting development of the Railway Lands, including the Precinct. These sections provide that agreements respecting the matters dealt with in the Environmental Agreement will be entered into under either Section 40 of the Planning Act (site plan approval) or the relevant provisions of the City of Toronto Act. Such agreements entered into under the City of Toronto Act are referred to as Special Environmental Agreements. These Sepcial Environmental Agreements are to be governed by the provisions of Section 34.

Section 36: Environmental Report

This section recognizes the role of the Environmental Report as an important source of factual information.

Section 37: Amendments to Guidelines, Criteria and Standards

Section 37 provides that if guidelines, criteria and standards applicable to the precinct are amended, the amended guidelines, criteria and standards will not be applied retroactively to development which has taken place under the guidelines, criteria and standards as they stood prior to such amendments.

Sections 38-44 inclusive: Various Legal Matters

These sections deal with various technical and legal matters, including, among other things, the fact that the Arbitrations Act does not apply to deliberations and decisions under the

Environmental Agreement, and the definition of the Commencement Date of the agreement.

Schedules to the Agreement

Schedule A, which sets out Noise and Vibration Criteria/Guidelines, was derived from the Environmental Report, with changes and refinements recommended by the Ministry of the Environment.

Schedule B, which sets out Peak Gust Conditions to be referred to in the Pedestrian Land Wind Studies required by Sections 9 and 10 of the Agreement, was taken from the Environmental Report.

Schedule C, which sets out Soil, Groundwater and Stormwater Standards, Criteria and Guidelines, was prepared by the Ministry of the Environment.

Some criteria and guidelines including those of Lakefill Quality Assurance Program, are actually included in the appendices to Schedule C. Others are referred to in the main text of the Schedule, i.e. Regulation 309, which establishes standards for waste disposal, and the "Guidelines for Decommissioning (Shutdown) of Major Industrial Sites in Ontario." Other relevant Ministry guidelines and criteria can also be applied, primarily through the Environmental Consultant's activities. The last paragraph of Schedule C, for example, refers to the "water quality goals, policies and objectives of the Ministry of the Environment", for which regard is to be had in the design of site specific stormwater management and dewatering discharge systems. This paragraph also states that the design of the systems "shall require all that is practicable to ensure total control of the restricted substances specified in Appendix 11 (the Lakefill Quality Management Program) and to ensure that the quality of the receiving water body is not changed adversely."

Schedule C will provide an essential basis for the Quality Management Programs to be developed, disseminated and monitored by the Environmental Consultant, and for his monitoring, testing, advisory, and reporting responsibilities generally.

6. Conclusion:

This report has reviewed and discussed the circulation and revision of the Environmental Report submitted by CN as part of its rezoning application for Precinct "A" (the Stadium Precinct). It has examined the concerns raised as the result of that circulation and the resolution of these concerns through revisions and supplements to the Environment Report, and through provisions included in the Environmental Agreement.

Appendix 3 to the report contains a draft of the Environmental Agreement prepared in consultation with CN and its consultants; DelCan Ltd., who produced the 1984 "Environmental Overview Study for the Railway Lands Steering Group"; the Ministry of the Environment, the Commissioner of Public Works, and the Medical Officer of Health. This draft includes certain comments received following a final circulation of the Environmental Agreement to CN, the Ministry of the Environment, the Medical Officer of Health, the Commissioner of Public Works, and the Metropolitan Commissioner of Planning. Other comments will be reported on along with the submission of a final version of the agreement. This supplementary report will deal with the issues marked with the symbol "*" in the draft agreement included in Appendix 3, and under discussion with CN, as well as Section 23, which is marked with the syumbol "+" to indicate that CN has raised objections to it.

In accordance with the Part II Plan, Council is not to enact the Stadium Precinct By-law until it has received final copies, executed by CN, of both the Precinct Agreement, dealt with in my accompanying report, and the Environmental Agreement.

7. Recommendations

1. That, subject to Council having received my report on comments received in response to the final circulation of the Environmental Agreement and any amendments to the Agreement, and Council having before it a copy of the Environmental Agreement, including any amendments, executed by CN and satisfactory to Council, the City's signing officers be authorized to execute the Environmental Agreement.

2. That a Bill to give effect to the draft bylaw contained in Appendix 4 to my January 11, 1985 Final Report, as amended by my February 7, 1985 report entitled "Railway Lands Part II: Amendments to the Precinct "A" Zoning Bylaw, not be introduced into Council until Council has before it the copy of the Environmental Agreement, including any amendments, executed by CN and satisfactory to Council.

3. That, in addition to a Section 40 Agreement, any development proposal submitted for site plan approval prior to the coming into effect of the Environmental Agreement also be subject to a Special Environmental Agreement or Agreements, as defined in Sections 33 and 34 of the Environmental Agreement, respecting any of the environmental matters dealt with in the Environmental Agreement which are relevant to the specific development proposal.

Stephen G. McLaughlin
Commissioner

LP/tc

REPORT ON ENVIRONMENTAL AGREEMENT FOR PRECINCT "A" (THE STADIUM PRECINCT)

APPENDICES

CITY OF TORONTO PLANNING AND DEVELOPMENT DEPARTMENT
STEPHEN G. McLAUGHLIN , COMMISSIONER

FEB.1986

APPENDIX 1

9. ENVIRONMENT

9.1 Council will use its available powers and will seek the cooperation of other levels of government, land owners and developers involved in the development of the Railway Lands to ensure that satisfactory environmental conditions consistent with those elsewhere in the Central Area are established for people working and living within and adjacent to the Railway Lands. Accordingly, in considering the development of the Railway Lands, Council will require the preparation of an Environmental Report respecting each precinct for submission pursuant to Sections 11.9 and 11.12 of this Plan. An Environmental Report shall contain an assessment of the appropriate means of:

(a) reducing, where appropriate, the noise and vibrational impact of the railway uses, the Gardiner Expressway, Lake Shore Boulevard and other arterial roads within and adjacent to the Railway Lands, by, among other things, the provision of buffers, including earthen berms, acoustical walls and buildings and structures, adjacent to noise and vibration sources as appropriate for residential, non-residential and open space uses;

(b) ensuring satisfactory air quality and climatic conditions, including satisfactory wind conditions at grade;

(c) ensuring satisfactory soil conditions, including any remedial steps, where necessary, with respect to contaminated soil and methane gas;

(d) providing for effective storm water management so that new development in the Railway Lands does not unacceptably affect water quality in Toronto Bay;

(e) minimizing, to the extent possible, risks of injury or damage from accidents on the rail and road corridors; and

(f) ensuring that the practices and procedures followed during construction of development in the Railway Lands are environmentally sound.

In addition to those matters set out in paragraphs (a) - (f) above, the Environmental Report submitted pursuant to Section 11.12 for the precinct designated A on Map E of this Plan shall also contain an assessment of the appropriate means of ensuring that the urban stadium and multi-purpose facility permitted in that precinct by Section 10.4.1 of this Plan will be developed in a manner which is environmentally compatible with surrounding land uses and open spaces, with particular attention to the light, noise and traffic operated (typographical error in bylaw - should be "generated") by the urban stadium and multi-purpose facility.

9.2 The Environmental Report referred to in Section 9.1 will be prepared by the proponents in consultation with the City, the Local Board of Health, and the Ministry of the Environment. The safeguards and measures set out in the Environmental Report shall address the Precinct Plan for the precinct and will be secured through an Environmental Agreement, submitted pursuant to Section 11.9 of this Plan.

For the purposes of this Plan an Environmental Agreement means an agreement containing provisions sufficient to ensure that the safeguards and measures set out in the Environmental Report are adequately secured.

9.3 The City and the Ministry of the Environment shall identify the various guidelines, standards, and requirements which at the time generally affect the development of lands south of Queen Street in the City of Toronto in relation to the environmental matters set out in Section 9.1 of this Plan.

9.4 It is Council's intention to consult with the Ministry of the Environment and the Local Board of Health respecting relevant environmental matters referred to in Sections 9.1 and 9.2 and to ensure that all Environmental Reports and Environmental Agreements are satisfactory to the City and the Ministry of the Environment.

9.5 In the event that the City or the Ministry of the Environment has indicated that any of the documents referred to in Section 9.4 are unsatisfactory to it, and the applicant wishes to have the question of whether an amendment to the zoning by-law should be made determined by the Ontario Municipal Board, the City shall ensure that the Minister of the Environment and the Regional Director of the Ministry of the Environment are given notice of the Ontario Municipal Board Hearing, so that

the Ministry of the Environment may, if it wishes, become a party to the Ontario Municipal Board Hearing and present its views on whether or not the re-zoning should proceed without amendment to the documents in question or only if they are further amended.

9.6 Council will seek to ensure by, among other things, the use of its powers under Section 40 of the Planning Act, that development in the Railway Lands is energy efficient. To this end, it is the policy of Council to work with the Toronto District Heating Corporation to encourage the development of district heating and cooling systems within the Railway Lands.

APPENDIX 2

The following responses relevant to the Environmental Report and Environmental Agreement components of CN's Rezoning Application for Precinct "A" (the Stadium Precinct) have been received.

1. Report and letter from Dr. A. S. MacPherson, Medical Officer of Health,

(a) Report to the Board of Health dated October 7, 1985: Approved by City Council on October 22, 1985.

"Comments:

In accordance with Section 9 of the Part II Official Plan for the Railway Lands, a precinct Environmental Report must be prepared by the developers in consultation with the Ministry of Environment and the Toronto Board of Health. The Environmental Report forms the basis for an Environmental Agreement, which should "...contain provisions sufficient to ensure that the safeguards and measures set out in the Environmental Report are adequately secured." (Official Plan, Part II Railway Lands, Section 9.2).

The first precinct in the Railway Lands to be developed will be the one containing the site of the future domed stadium. This area is designated as Precinct "A". The precinct is located immediately to the west of the CN Tower, and will include, in addition to the domed stadium, two million square feet of commercial development (office and retail) and 259 residential units.

An Environmental Report, prepared for the proponent - CN Real Estate -- by a consortium of consultants, was submitted to the Department of Planning and Development. I was asked by the Commissioner to review this document to facilitate drafting of a final report and Zoning By-Law for presentation to the Land Use Committee on December 18, 1985.

The Environmental Report has been reviewed by my staff. The following specific comments on the Environmental Report are organized by chapter headings.

Noise and Vibration

Pages 4 and 5: There is discussion about meeting noise criteria by constructing sealed buildings, both residential and commercial. Because of the frequent association of sealed building designs with inadequate indoor air quality, I believe that, at a minimum, designs for all new construction should reflect careful consideration of maximizing fresh air supply in sealed buildings. Ideally, however, natural ventilation is preferable to mechanical, especially for residential buildings.

Pages 8 and 13: Given my longstanding concerns about the need for housing in the Railway Lands, I cannot support the proposed strategy of delaying development of residential uses to avoid noise conflicts arising from lack of a permanent roof for the stadium. I suggest that other strategies for dealing with this issue be considered, and that residential uses be developed concurrently.

Preliminary Microclimatic Studies

This chapter deals with meteorology (wind, sun/shade) and air quality. Overall, the air quality analysis is incomplete:

- We know that particulate pollution exceeds Ministry of Environment criteria in the area of the Railway Lands. Yet the report considers only gaseous pollutants and does not deal with particulate pollution, which has been identified as a concern by the Munn report (November, 1983), by Delcan's Environmental Overview Study (November, 1984), and by my March 11, 1985 memo (attached).

- The simulation involving traffic emissions is limited to traffic effects from the Gardiner Expressway, and ignores other major transportation arteries as sources (Delcan's Environmental Overview Study, estimated increases in traffic emmissions from several transportation sources in and around the Railway Lands).

- The analysis does not take account of point sources of pollution which might effect Precinct "A" (Toronto Refiners and Smelters and Toronto Terminal

Railways Boilerhouse, both are identified in Delcan's Environmental Overview Study as significant point sources).

In my view the air quality analysis needs to be expanded. At a minimum the air quality analysis should address the issues raised above. To obtain reasonable estimates of particulate pollution and its sources size spectrum and content analyses will need to be undertaken, preferably using data from both summer and winter seasons. Having said this, I wish to emphasize that it is equally important to estimate future levels of gaseous pollutants with reasonable accuracy. Therefore all transportation and point sources should be included in modelling these pollutants. (I recognize the difficulties inherent in developing accurate predictive models. I believe that it is important to validate predictive models by comparing their estimates to actual, observed levels, over time. I would hope that as development of the Railway Lands proceeds over the next two decades, predictive models derived now will be repeatedly tested against actual air quality and updated accordingly.)

Ideally, as I have stated elsewhere (e.g., my March 11 memo to Commissioner of Planning and Development) a comprehensive study of pollution sources impinging upon the entire Railway Lands would be the optimal approach to understanding the relative contributions of various sources to observed ambient concentrations and to developing mitigation measures that will ensure compliance with Ontario Ministry of Environment Air Quality Criteria.

Subsoils Investigations and Contaminant Studies

Page 19: Conclusions 11 and 12, concerning Soil and Groundwater Quality Management Programs during site preparation and excavation recommend that approval by the Ministry of Environment be required for the terms of reference of such Programs. I wish to suggest that as well the Medical Officer of Health for the City of Toronto Health Unit be consulted in these instances.

Stormwater Management and Stormwater Quality

I have a general comment to make about the treatment of these issues in the Environmental Report. I feel that the approach of evaluating water quality impacts on the Railway Lands Development on a precinct by precinct basis, without considering the larger context of the total development, has limitations. The effects of the development of each precinct on discharges into Toronto Harbour will be additive. To present analyses for each precinct in isolation gives an incomplete picture of water quality impacts of Railway Lands development on Toronto Harbour. The comprehensive approach taken in Delcan's Environmental Overview Study (pp. 6-8 and 6-9) on this issue is preferable and closer to the ecosystem approach advocated in the Great Lakes Water Quality Agreement. Future analyses of water quality impacts of Railway Lands development should adopt such an approach.

Having said this, I wish to express my support for the guidelines for stormwater management during construction that are proposed in this chapter. If they are adopted and implemented, then discharge of contaminants into the Harbour during construction should be minimized sufficiently.

Recommendations:

1. That the Board of Health request City Council to ensure that the Environmental Agreement for Precinct "A" requires that the air quality analyses of Precinct "A" be supplemented with

   a) size spectrum and content analyses of particulate pollution measured at Ministry of Environment monitoring stations proximal to the Railway Lands (Stations 31018, 31085, and 31004), with conclusions about sources and changes likely to occur as a result of development.

   b) contributions to gaseous pollutant estimates from all major transportation arteries in and around the precinct and from significant point sources; and

c) suggestions for mitigation measures where appropriate.

2. That the Board of Health request City Council to ensure that the Environmental Agreement for Precinct "A" requires that the Medical Officer of Health be consulted concerning terms of reference for soil and groundwater quality management programs during excavation and construction in Precinct "A".

3. That the Board of Health request City Council to ensure that the Environmental Agreement for Precinct "A" includes the stormwater management guidelines proposed in the Precinct "A" Environment Report."

(b) Letter dated February 13, 1986

"On January 6, 1986, I received a request from Dan Burns to review and comment upon the "revised revision" of the Precinct "A" Environmental Report (January 3, 1986). Although the attached document was labelled "Final Report", the letter advised that a numerical modelling study for overall air quality would follow in two to three weeks (i.e., by January 30). I was asked to send my comments at my earliest convenience, as you would be reporting on this matter at Land Use Committee on February 13.

On the morning of February 7, I met with you to discuss my concern about SO2 pollution from Toronto Refiners and Smelters (TRS) impinging upon the domed stadium (a situation described in the Microclimate Chapter of the January 3 report), and possible adverse health consequences of such pollution. The exact nature of my concerns was described in a draft report delivered to Dan Burns' office on the afternoon of February 7.

On the afternoon of February 11, I received a copy of the mumerical modelling results - "Numerical Air Quality Assessment of the Stadium Area and Tower Park, CN Railway Lands, Toronto, Ontario" (February 3, 1986) - after Dr. Campbell of my staff had called Bruce Brown to inquire about the delay in our obtaining this document.

Having done a preliminary review of the numerical modelling results, I find that excessive concentrations of SO2 from the TRS stack are expected to extend 950 m downwind (in westerly winds), not 1,700 m as estimated in the January 3 report. This change effectively moves the stadium just out of range of the plume's impact. A more

detailed report on the February 3 modelling results will be forthcoming when I have had time to do a thorough review.

I have checked with Ministry of Environment staff regarding my preliminary impressions. They have not seen the numerical modelling results and therefore have not had an opportunity to evaluate the validity of the model or the results it produced. They agree, however, that there is reason to be uncertain about whether the SO2 plume from TRS will impinge upon the stadium.

Given this uncertainty and Morrison Hershfield's own caveats regarding the numerical modelling results, I believe that either physical modelling or ambient air testing will need to be done to settle the question.

In the meantime, I reiterate my concerns (expressed in my draft comments on the January 3 report) about:

a) the potential for increased lead impacts from TRS on the Niagara Neighbourhood due to downwashing from the stack once tall buildings are erected in the Stadium Area; and

b) the need to incorporate dust control measures into the Environmental Agreement to minimize excessive particulate pollution during excavation and construction phases of development.

I trust you will find these comments constructive."

2. Memorandum and letter received from Mr. R. M. Bremner, Commissioner of Public Works

(a) Memorandum dated October 18, 1985

"Comments:

The Precinct 'A' Submission by the IBI Group on behalf of CN Real Estate is for the construction of a Dome Stadium, some 150 000 square metres of non-residential space and about 260 residential units.

As you know, members of my Department have been involved, on an ongoing basis, in the review of the proposed transportation and municipal services (streets, storm and sanitary sewers and water supply) and have collaborated

with your staff in the development of proposed cost sharing formulas, phasing and the Memorandum of Conditions. I am forwarding the following comments as an update and confirmation to these aforementioned discussions. In this regard, I would also refer you to my recent letters of July 29, 31 and August 7, 1985, concerning the Memorandum of Conditions which, with the events of the last few months, have become the focus of my comments and which establish the context for the comments that follow.

My comments on the Precinct 'A' Submission will be discussed under the general headings of Engineering Services, Environmental Report and Transportation.

1. Engineering Services

I would note that detailed comments pertaining to the proposed system of storm sewers, sanitary sewers and watermains were forwarded to Mr. C. Beach of the IBI Group under date of May 8, 1985, in response to their submission of a preliminary draft of the required Engineering Services Report.

All design drawings and calculations for services to be assumed by the City must be in accordance with the appropriate City of Toronto specifications, in metric, certified by a Qualified Municipal Consulting Engineer and approved by me. The sewers and watermains on private property servicing more than one building must also be designed by a Qualified Municipal Consulting Engineer and obtain the required Ministry of the Environment approval. In addition, the location of services within the road allowance shall be in accordance with the suggested location plan of the City of Toronto Public Utilities Co-ordinating Committee.

(a) Storm Sewer System

The existing storm sewer system east of Spadina Avenue is not adequate to accommodate storm runoff from the proposed development and a new storm sewer outlet into the Harbour is required. Storm runoff, west of Spadina Avenue, can be accommodated by the existing trunk outlet storm sewer system. The attached Figure 1 - General Scheme Storm Drainage for Proposed Development on Railway Lands (October 1985), indicates the manner in which storm

runoff from the development of the Railway Lands will be accommodated. This drainage scheme is the only practicable way to approach the storm drainage requirements of the Railway Lands taking into consideration the constraints that exist in regard to securing access to the Harbour for the construction of new storm trunk sewer outlets.

As in previous submissions, the IBI Group proposes that existing sewer facilities should be used to provide interim services and connections required to facilitate the development of early precincts. I confirm again that the existing storm sewers are not capable of accepting any flow from the redeveloped Railway Lands and that new storm sewer facilities must be constructed and be in operation before any new buildings can be occupied. All references, therefore, to interim solutions or connection schemes must be deleted from the report.

I note that the design and construction of the John/Rees Street storm sewer outlet has been included in the proposed servicing plan and is scheduled for design beginning November 1985, tendering in April 1986 and completion by March 1988. I would recommend that the design of this outlet be undertaken by a Qualified Municipal Consulting Engineer with pertinent experience in tunnel construction in rock. The selection of this consultant to be subject to my approval.

There will also be a requirement to pump storm drainage from areas depressed in relation to the road (e.g. the stadium field or some parts of the railway corridor).

I have received detailed design calculations from the IBI Group under separate cover and shall discuss these details directly with same as my analysis and review continues.

(b) Sanitary Sewer System

The sanitary sewer system and especially the sanitary sewage pumping stations at Strachan Avenue and Scott Street are not adequate to

serve the development (except for a portion of the development west of Portland Street). Consequently, the new pumping station, forcemain and sanitary sewer collectors must be constructed and be in operation before the Dome Stadium or any new buildings can be occupied.

A previous submission showed the lands west of Portland Street, north of The Esplanade West as parkland. The parkland has now been moved east of Portland Street and the area west of Portland Street is to be developed as medium density, mixed commercial residential. This would increase flow to the sanitary sewer on Bathurst Street and the Strachan Avenue Pumping Station. Furthermore Exhibit 7.2 shows certain lands east of Portland Street to be drained westerly towards Bathurst Street. This increase of sanitary flow to the Strachan Avenue Pumping Station can not be accommodated. I will be discussing an appropriate reduction of the drainage area with the IBI Group. These discussions will also include further clarification required regarding drainage design details and the detailed design calculations which I received under separate cover.

The proposed location for the sewage pumping station south of the Stadium is acceptable however I would advise that unless the proposed pumping station is sized appropriately to allow for the servicing of the lands to the east, a separate pumping station will be required east of John Street.

As per the discussion on the storm sewer system, all sanitary drainage from subsurface areas (e.g. basement and low lying areas within the Dome Stadium site) must be pumped.

(c) Watermains Systems

I will be requesting that Metro provide for a new direct connection to the new John Street Pumping Station thus eliminating the need for the proposed connections across the rail corridor to the existing system on Front Street.

The sizing of this system will be subject to further detailed review and must be confirmed by hydraulic calculations (preferably computerized). I will be discussing these design details directly with the IBI Group.

(d) Site Grading and Overland Drainage

The construction of most of the proposed road system on embankments is acceptable to me, subject to providing positive drainage from properties to be developed to at least one of the abutting streets. As stated in (a) and (b), above, drainage from any area depressed relative to the roadway must be pumped.

I note however, that the 'U' loop, south of The Esplanade and west of John Street indicates a surface elevation of +76.50 m. Considering that maximum lake level is at 75.60 m, adequate drainage cannot be achieved unless surface elevations are raised or the storm drainage system is revised.

In general, road grades can only be approved after detailed hydraulic calculations of the proposed storm sewer system within the site have been submitted, reviewed and approved by me.

2. Environmental Report

(a) Noise and Vibration

I am satisfied with Valcoustic's Environmental Report. Although existing and future noise levels are relatively high, sound isolation techniques required to meet acceptable levels appear practicable, even for residential buildings.

The Environmental Agreement and the approval process must include a requirement for each individual project to submit a Noise Impact Statement for my approval.

(b) Subsoils Investigations and Contaminant Studies

All 18 priority contaminants identified by the Ministry of the Environment in the Lakefill Quality Guidelines have been analyzed.

Due to the variability of soil consistence and contamination, I recommend that the Environmental Agreement and the approval process include provision that any future applicant for development of individual projects has the terms of reference for each Soil and Groundwater Quality Management Programme approved by the Ministry of the Environment prior to any building permit being issued by the City and that evidence of this approval must be submitted to me.

Due to possible high sulphate and chloride contaminations, underground structures (e.g. concrete or steel) require adequate protection against aggressive soil conditions (e.g. coatings, imported backfill, etc.).

3. Transportation

Our joint October 1983 response to the Central Waterfront Transportation Study establishes the framework for the continued development of transportation infrastructure within which the Railway Lands can be developed. While all of these issues have not been resolved, our continued co-operative effort should ensure that a comprehensive transportation plan can be developed and implemented as the phased development of the Railway Lands occurs. A key issue in this regard will be the need for a concerted and sustained effort to seek ways of inducing or regulating modal split in favour of transit while maintaining (as a minimum) the existing levels of service/operation on the road system.

The majority of the following comments were provided to Messrs. Stewart and Shaw of your Department during the preparation of your report in response to the motions adopted by Council at its meetings of June 17 and 21, 1985, (as it relates specifically to the Dome Stadium). However, due to the importance of a number of these issues, I will reiterate them

so that this response provides a comprehensive update on these matters.

One of the fundamental considerations in the development of Precinct 'A' is that the dominant use, the Dome Stadium, must be realized within the context of an "Urban Environment". The key to the successful operation of the Dome, from a transportation viewpoint, is the encouragement of the utilization of the transit system by a majority of its patrons.

It is on this basis that I will discuss the issues of parking, transit infrastructure, charter buses, roads infrastructure, pedestrian requirements and monitoring programmes.

(a) Parking

As a deliberate policy initiative to encourage greater transit use, I would recommend a very minimal amount of on-site parking for the Dome. In our previous discussions on this matter, we agreed that 300-500 parking spaces might be appropriate to accommodate the parking needs of the V.I.P.s, handicapped, participants and other necessary vehicles. I would suggest that the low end of this range would be the most appropriate, however the final determination should be the subject of a further detailed review once the Stadium design details are known.

In this regard, the submission is relatively vague. While Exhibit 5 indicates about 300 spaces being provided initially, none of the plans indicate precisely where these spaces are located and what access provisions are going to be made. In my opinion the permanent location and access provisions for these parking spaces must be identified and secured in the Precinct agreement.

It is imperative that we take advantage of the "shared-use" parking concept in establishing a parking strategy for the Dome. It is only in this way that manageable peak traffic conditions can be achieved and the potential conflict with commuter parking pressures in the Downtown avoided. Significant on-site parking

will only encourage commuter parking and increases in auto travel and congestion in the downtown.

To complement the above policy initiatives, I would recommend the development of a marketing and public relations programme to stress the advantages of using transit to travel to the Dome while also indicating the unavailability of on-site parking. Further initiatives to formally co-ordinate the off-site parking to the Dome events should be developed as contingency plans and implemented only after a review of the initial event operations at the Dome. Some general off-site parking information should, however, be part of the initial marketing and public relations programme.

The parking requirements for the other uses in Precinct 'A' should be in accordance with By-law No. 236-83 although in light of the preceding discussion, I would recommend the application of the minimum standards. I acknowledge that the parking supply generated by these other uses could be utilized by Stadium patrons however with the probable time lag in these developments and a concerted pro-transit plan, the impact of these spaces should be minimized.

(b) Transit Infrastructure

In the long term, I anticipate that the north-east subway extension commonly referred to as the Downtown Relief Line, coupled with some form of transit on The Esplanade West, will supply the additional major transit services to the Dome Stadium and Precinct 'A'.

In the short term, I would recommend three major initiatives to augment the existing transit network in the area. Specifically, these would include:

(i) the establishment of a GO station/concourse as an integral part of the Stadium (possibly utilizing the GO ALRT right-of-way) or, as

suggested in the Submission, at Spadina Avenue;

(ii) the implementation of the Spadina LRT/streetcar; and

(iii) a determination of and agreement on the improvements that may be required at St. Andrew and Union Stations to accommodate the anticipated crowds.

The development of a new GO station at the Stadium and integrated via a concourse to the lower levels of the Dome could help immensely in relieving the conflicts/pressures at and leading to Union Station by dispersing the loading over two stations. The new station would also act as an incentive for people to take transit (not only for the Dome but for the entire area) since they would be dropped off right at the Stadium. The alternative suggested in the Submission of having the GO station at Spadina Avenue is acceptable provided that good pedestrian connections can be developed and secured. In addition, if the anticipated level of GO Transit ridership to the Stadium is to be accommodated, agreements with GO Transit regarding service expansion requirements must be secured.

The implementation of an LRT/streetcar on Spadina Avenue would encourage a greater transit modal split to the Stadium and the surrounding development in the Railway Lands. However, the Spadina LRT/streetcar should be supported within the context of the entire corridor needs and not solely on the basis of the Dome Stadium or Railway Lands (Spadina Sub-Centre). In the event that the Spadina LRT/streetcar is not in place for the opening of the Dome Stadium, the TTC should be requested to provide service to the Stadium using the Spadina bus and the looping (via Clarence Square - Peter Street) suggested in the Submission (page C-7). I do feel however, that the loop may not be able to extend south of Front Street via the Peter Street extension since the Submission suggests that this section of roadway will be closed during Stadium events to facilitate pedestrian movements. An

exclusive bus operation utilizing Spadina Avenue and The Esplanade West might be possible but I would request further clarification on this matter from IBI.

There will be a significant volume of people wanting to utilize the St. Andrew and Union Stations during an event at the Stadium. It is currently acknowledged that, with the development of the Railway Lands and the Central Area in general, there will be additional pressures and conflicts at Union Station. Accordingly, I would recommend an immediate determination of improvements that are required at Union Station and St. Andrew Station with the objective of securing an agreement with respect to the improvements that should be made in conjunction with the development of the Dome Stadium and Precinct 'A'. This should be undertaken concurrently with the establishment of a new GO station at or near the Stadium since this would have a significant impact on pedestrian movements and general pedestrian distribution.

(c) Charter Buses

Another very important consideration that is not clearly defined in the Submission relates to the operation of charter bus services. The Submission (page C-13) states that "sufficient bus parking for the expected demand can be provided in this area." It is further noted that "for baseball games, 35 to 40 buses are expected. For larger events accommodation for over 100 vehicles will be provided." The Submission however, does not identify where this permanent charter bus parking is going to be accommodated or what access provisions will be made for this important service.

As per our previous discussions and in light of the "pro-transit" policy initiatives we are both supporting for the Dome, I would recommend that permanent provision for the handling and parking of a minimum of 125 charter buses be made at the site. As in the case for the limited on-site parking that I am recommending, the charter bus parking must be an integral part of the Stadium site design and layout. In

addition, I would also recommend that special provisions in the site layout be made that will allow the charter services special, direct access to the Stadium. This could be achieved by means of reserved lanes leading into the Stadium (for example, along The Esplanade West, John Street and Simcoe Street) with a special drop-off area at the south-west corner of the Stadium at which point the arriving charter buses would be assigned a special reserved, numbered parking location. The parking, loading and unloading of charter buses on the local streets in the area, as suggested in the Submission, is not acceptable.

(d) Road Infrastructure

The Submission (page C-6) outlines the basic road system that the applicants propose to have, in place on the opening day of the Stadium. These elements include the following:

(i) The Esplanade West, west from the stadium site, (John Street) to a connection with Spadina Avenue (using the northern east-west street as a connection until Spadina Avenue is reconstructed);

(ii) improvement of the John Street access from Lake Shore Boulevard;

(iii) the development of a new connection, the Peter Street bridge, across the railway corridor to the north;

(iv) the northern east-west street connecting Peter Street to Spadina and the north-south road connecting both of these to The Esplanade; and

(v) the first section of the "U" road south of The Esplanade which will provide access to the Metro Pumping Station.

I am in agreement with the road infrastructure item Nos. (ii) to (v) inclusive above. However, there are three major additional road infrastructure elements that must also be in

place on the opening day of the Stadium. Specifically these are:

(vi) a reconstructed Spadina Avenue bridge/road between Front Street West and Lake Shore Boulevard West;

(vii) The Esplanade West connected to the reconstructed Spadina Avenue bridge and extending easterly to Simcoe Street; and

(viii) Lower Simcoe Street from The Esplanade West to Lake Shore Boulevard West.

These facilities are required to provide an adequate road system to service the development of Precinct 'A' in general and the Dome Stadium in particular. I make these recommendations not solely on the basis of traffic capacity but also from a functional and operational viewpoint. The basic road infrastructure that I am recommending will ensure adequate road infrastructure to accommodate the efficient operation of the Dome and access to the remaining development while minimizing the future disruption of activities in the Precinct that would materialize with the delayed, future construction of these basic elements.

In particular, the Spadina Avenue bridge reconstruction is the primary example of these aforementioned considerations. It is acknowledged that there are existing traffic capacity and operating deficiencies at the intersections of Spadina/Front and Spadina/Lake Shore and that the peak hour volumes on the bridge itself could justify a new 6 lane bridge today. To construct the Dome as proposed and initiate the phased implementation of the remaining development in Precinct 'A' and then plan for the reconstruction of one of the major entrances to this development and the Central Area as a whole is unacceptable. When the prospects of the Spadina LRT/streetcar are also considered and the advantages that such service could bring to meeting the objectives of the City in regards to increased shifts in modal split to the Central Area in favour of transit

and the "pro-transit" policies for the Dome, further impetus is added to securing the reconstruction of the Spadina bridge as an essential requirement for the development of this Precinct. I would note that the road infrastructure that I am recommending is consistent with the principles and statements included in By-law No. 610-85 adopted by Council to give effect to the Part II Plan for the Railway Lands.

While the Submission does not include the Spadina Avenue bridge reconstruction as part of the initial infrastructure (page C-6), the need to reconstruct the bridge is acknowledged on pages B9-B10. Indeed, Exhibit 7.4A proposes a design and construction schedule which shows completion of a reconstructed Spadina bridge by October 1988.

I am also concerned about the proposed John Street connection to Lake Shore Boulevard as outlined in the Submission. The analysis presented on page C-24 and Exhibit 11 does not consider the fact that John Street will be extended to Queens Quay (included in my programme for 1986). The analysis should be redone to confirm that this intersection can in fact be made to function properly as a 4-way intersection including the added consideration of the pedestrian requirements. I would also request that the details of the proposed construction of an additional right turn southbound lane on John Street be submitted for my review and approval. Needless to say the intersection operations analysis should also include this aspect of the proposal. These types of concerns and constraints are a further reason why I am recommending that the initial road infrastructure include Lower Simcoe Street and The Esplanade West from Simcoe Street westerly to the reconstructed Spadina bridge.

On a more detailed note, I would recommend that the minimum right-of-way for any local road be 20 m (66 feet) and not the 15 m (50 feet) shown in the Submission plans. Moreover, while a 30 m (100 feet) right-of-way for The Esplanade West would appear adequate at this time, I would advise that the final determination of

this R.O.W. requirement is dictated, to a great extent, (assuming the road width and sidewalk/boulevard dimensions are as shown) by the type of transit to be provided on this roadway. If for example, an LRT/streetcar service is to be developed in the area shown as median, the 5.5 m (18 feet) currently indicated on Drawing S3B and page B-11 would be insufficient. However, if a mixed flow bus operation is the long term objective, the right-of-way, as shown, is adequate. Further clarification on the ultimate transit operating strategy for The Esplanade West, (recognizing the proposed Spadina LRT, Harbourfront LRT and Downtown Relief Line) is therefore required in order to finalize the right-of-way requirements.

(e) Pedestrian Requirements

The development of pedestrian facilities associated with the Dome require critical consideration. These facilities are especially important due to their influence on the use of transit, the distribution of patrons to the parking areas around the Stadium and the minimization of impacts on adjacent uses (e.g. CBC development, Royal Bank etc.). The establishment of good pedestrian links will be especially important in the initial stages of development. In this regard the critical pedestrian links are the John Street bridge, the Peter Street bridge, a pedestrian connection to the GO station at or near the Stadium, the development of at least one and preferably two major east-west routes to Union Station (possibly the route along the back of the Convention Centre and through the CN Express Building across York Street or along the south side of the rail corridor and across the rail corridor at Simcoe Street again using the Express Building and crossing York Street or The Esplanade West to Simcoe and across the rail corridor in the same way as the other noted alternatives) and connections to the reconstructed Spadina bridge/road which facilitate the interface with the proposed Spadina LRT/streetcar. The Precinct Agreement must secure arrangements for the provision of these pedestrian facilities as part of the

opening day infrastructure for the Dome Stadium.

It is my understanding that there is some doubt about the availability of the route behind the Convention Centre. If this route can not be secured at least one of the other two suggested routes south of the rail corridor must be implemented. I do not accept the statement on page C-19 that "if this route is not available then the pedestrian flows assigned to this route will be added to those on Front Street." This is an unacceptable proposition. As I noted in the section of road infrastructure, these recommendations are consistent with the principles and statements included in By-law No. 610-85 adopted by Council to give effect to the Part II Plan for the Railway Lands.

(f) Monitoring Programmes

I consider it essential that a specific monitoring programme be developed by our Departments in co-operation with the TTC, Metro and the Stadium Corporation, to review the transportation impacts of the Stadium's initial year of operation. In this way, steps can be taken to change and improve the operations based on actual operating experience.

I would also advise that I am reserving comment on the proposed construction schedules included in the Submission and the Memorandum of Conditions as Schedule D pending confirmation of the provision of the infrastructure requirements discussed in this report.

Recommendations:

I recommend that the owner/applicant be required to:

1. Select, in consultation with the Commissioner of Public Works, a Qualified Municipal Consulting Engineer to undertake the design and field supervision of all municipal services;

2. Submit all design drawings and calculations for services to be assumed by the City to the Commissioner of Public Works for approval and that these be in accordance with the appropriate City of

Toronto Specifications, in metric and certified by a Qualified Municipal Consulting Engineer;

3. Prepare for submission, through the Commissioner of Public Works, the necessary applications to the Ministry of the Environment for any sewers and watermains on private property servicing more than one building and ensure that these services are designed by a Qualified Municipal Consulting Engineer;

4. Locate services within the road allowance in accordance with the suggested location plan of the City of Toronto Public Utilities Co-ordinating Committee;

5. Design the storm drainage system for the Railway Lands and Precinct 'A' on the basis of the attached Figure No. 1 - General Scheme Storm Drainage for Proposed Development on Railway Lands dated October 1985;

6. Delete all proposals for and references in the Submission to interim solutions or connections for servicing the development of Precinct "A";

7. Construct and have in operation all new storm and sanitary sewer facilities, as directed by the Commissioner of Public Works, prior to any new buildings (including the Dome Stadium) being occupied;

8. Provide for the pumping of all storm and sanitary drainage from subsurface areas or areas depressed in relation to the roads;

9. Develop the watermain system on the basis of the implementation of a new direct connection to the new John Street Pumping Station and confirm the sizing of this system by means of computerized hydraulic calculations to the satisfaction of the Commissioner of Public Works;

10. Provide positive drainage from properties to be developed to at least one of the abutting streets;

11. Finalize the road grades following approval of the detailed hydraulic calculations by the Commissioner of Public Works;

12. Submit a Noise Impact Statement for each individual project in accordance with City Council's requirements;

13. Obtain and submit to the Commissioner of Public Works, evidence of approval from the Ministry of the Environment for the terms of reference for each Soil and Groundwater Quality Management Programme to be done for any future development application of individual projects prior to any building permit being issued by the City;

14. Submit evidence to the Commissioner of Public Works that underground structures have been designed with adequate protection against aggressive soil conditions;

15. Provide a maximum of 300 to 500 parking spaces (the final determination subject to further detailed review once stadium design details are known) in a permanent location on the Dome Stadium site for V.I.P.s, handicapped, participants and other necessary vehicle parking and identify the location and access provisions for these spaces;

16. Develop to the satisfaction of the Commissioners of Planning and Development and Public Works, a marketing and public relations programme stressing the advantages of using transit to travel to the Dome Stadium while also indicating the unavailability of on-site parking and general information on off-site parking locations;

17. Comply, on an overall project basis, with the minimum parking standards of By-law No. 236-83;

18. Secure an agreement with the appropriate authorities, for the establishment of a GO station/concourse as an integral part of the Stadium, or as suggested in the Submission, at Spadina Avenue and any GO service expansion that may be required to service the Dome Stadium and the rest of Precinct 'A';

19. Provide clarification on the possible routing of the Spadina bus in the event that the Spadina LRT/streetcar is not in place for the opening of the Dome Stadium;

20. Determine and secure agreement for the improvements that will be required at Union Station and St. Andrew Station as a result of the development of the Dome Stadium and Precinct 'A';

21. Provide and maintain space for the storage, handling and parking of a minimum of 125 charter buses on the Dome Stadium site including special provisions in the site layout to allow the charter services special, direct access to the Stadium;

22. Construct and place in operation, to the satisfaction of the Commissioner of Public Works the following road infrastructure by the opening day of the Dome Stadium:

(i) a reconstructed Spadina Avenue bridge/road between Front Street West and Lake Shore Boulevard West including all underground municipal, utility services and street lighting;

(ii) The Esplanade West connected to the reconstructed Spadina Avenue bridge and extending easterly to Simcoe Street including all underground municipal, utility services and street lighting;

(iii) John Street from The Esplanade West to Lake Shore Boulevard West including the improved channelization at Lake Shore Boulevard West, all underground municipal, utility services and street lighting and a new storm sewer outlet to the Rees Street Slip for the drainage of Precinct 'A' and the Railway Lands as indicated on Figure No. 1 - General Scheme Storm Drainage for Proposed Development on Railway Lands dated October 1985;

(iv) Lower Simcoe Street from The Esplanade West to Lake Shore Boulevard West including all underground municipal, utility services and street lighting;

(v) The Peter Street extension and bridge from Front Street West across the rail corridor including all underground municipal, utility services and street lighting;

(vi) The new local east-west road immediately south of the rail corridor connecting the Peter Street extension to the reconstructed Spadina bridge/road and the north-south local road connecting both of these to The Esplanade West including all underground municipal, utility services and street lighting;

(vii) The first section of the local "U" road south of The Esplanade West including all underground municipal, utility services and street lighting so as to provide access to the Metro Pumping Station;

23. Submit for the review and approval of the Commissioner of Public Works, a traffic operations analysis (including a possible signal phasing plan) of the John Street/Lake Shore Boulevard West intersection taking into account a 4-way intersection operation and the added consideration of pedestrian requirements and including details/plans of the proposed construction of an additional right turn southbound lane on John Street at Lake Shore Boulevard West;

24. Provide a 20 m (66 feet) minimum right-of-way for all local roads;

25. Provide clarification on the proposed ultimate transit operating strategy for The Esplanade West in order that the right-of-way requirements can be finalized and approved;

26. Construct and place in operation, to the satisfaction of the Commissioners of Public Works and Planning and Development, the following pedestrian infrastructure/system (in addition to the existing and proposed sidewalk system) by the opening day of the Dome Stadium:

(i) the John Street Pedestrian Bridge across the railway corridor as detailed in the Submission;

(ii) the Peter Street bridge across the railway corridor as detailed in the Submission;

(iii) a pedestrian connection to the proposed GO station at or near the Stadium;

(iv) at least one and preferably two major east-west routes to Union Station as detailed in this report; and

(v) connections to the reconstructed Spadina bridge/road which facilitate the interface with the proposed Spadina LRT/streetcar."

N.B. Attached drawing on file with the Commissioner of Planning and Development

(b) Letter dated January 27, 1986

"I refer to the January 17, 1986, letter from Mr. D. Burns of your staff, regarding the above noted topic. I have now completed my review of the Revised Environmental Report and advise that I have no further comments beyond those contained in my October 18, 1985, report to you and as specified in Recommendation Nos. 12, 13 and 14 of same.

As you are aware, the IBI Group, on behalf of the owner/applicant, submitted, under date of December 2, 1985, a response to the recommendations contained in my report of October 18,1 985. In this regard, they have agreed to Recommendation Nos. 12-14 (inclusive) and the details of these should be included in the Environmental Agreement, to my satisfaction."

3. Letters from the Ministry of the Evironment

(a) Letter dated November 7, 1985, from Mr. G. Mierzynski, Regional Director

"Staff of the Ministry of the Environment have reviewed the May, 1985 Environmental Report and the September 1985 supporting documentation for the Railway Lands Precinct A Bylaw. Our comments on those sections of the Environmental Report of relevance to us follow. We have no comments or concerns regarding the supporting documentation material.

Section 2 - Noise and Vibration

We have two overall concerns which pertain to several matters raised in this section of the Environmental Report. The first pertains to the decommissioning of the

highline freight line to the south of the rail lands. The second pertains to whether GO-Transit uses conventional rolling stock or light rail vehicles for their operation. All noise impact predictions have been predicated on freight activities being relocated from the highline to the main rail corridor, and on GO-Transit operating light rail vehicles. As well, we have specific concerns with certain recommendations, and with information contained in Appendix C.

From discussions with the consultants, it is obvious that the highline must be decommissioned, particularly for development to occur in adjacent Precincts. We are fully aware that discussions are proceeding to effect the relocation, but apparently there is still some uncertainty in the timing of this. Therefore, we recommend one of the following options: 1) the release of Block 20 be withheld until the highline is decommissioned, or 2) that the consultant be instructed to assess the feasibility of residential development, in the event that the highline issue cannot be resolved prior to the imposition of residential uses in the Precinct.

Predicted outdoor sound energy exposure levels for Blocks 19 and 20 were predicated on the use of light rail vehicles by GO-Transit. For example the predicted Leq from GO-Transit operations on the north residential building (207 m. from the main rail corridor) is quoted as 28 dBA. If conventional trains must be substituted for light rail technology, which appears to be the case at least in the short-term, this noise level prediction will be more in the range of 58 dBA. A specially developed GO ALRT prediction model was used for noise predictions in this Precinct. Staff have recommended that we be provided with the details of this model. If it is predicated on the use of light rail vehicles it may not be valid.

With respect to the recommendations for noise and vibration control, we note that recommendation 2.4(a) suggests air conditioning or suitable alternate ventilation be required whenever it is not possible to achieve the indoor noise criteria. In general, where indoor noise levels are predicted to be this severe, the Ministry of the Environment recommends central air conditioning as opposed to other alternate ways of ventilating the building. We would strongly recommend that residential buildings within this precinct be centrally air conditioned.

Recommendation 2.4(b) suggests that noise sensitive outdoor recreational space should be designed to meet the outdoor criteria wherever possible, and in no case exceed the criteria by more than 10 dBA. We assume this refers to the MOE noise criteria. The Ministry of the Environment cannot support an excess of more than 5 dBA over our criteria.

Recommendation 3.1(b) makes reference to the minimum sound transmission capability (STC) rating for the stadium roof assembly. Staff question whether an STC rating of 50-60 is practicable with an openable or inflatable roof system. The consultant has raised the possibility of the stadium proceeding with a temporary roof structure. If it is necessary to proceed with a temporary roof assembly, not capable of the desired sound attenuation, we question the practicality of restricting stadium uses, which the consultant suggests as a noise control option. We strongly recommend that these matters be more thoroughly assessed:

1. to determine if a roof structure with these acoustic performance characteristics is actually feasible;

2. to determine if it is indeed possible that a temporary roof may have to be resorted to; and

3. to determine the implications of these matters on residential development in the precinct and adjacent areas.

Finally, with reference to Appendix C (GO-Station Noise and Vibration Control Case Study), it is suggested that minimal problems with respect to station noise and vibration are expected, and that the Toronto subway system is analogous. Again, studies and statements are being predicated on the use of light rail technology for GO operations, whereas current indications are that conventional rail vehicles will have to be used. Therefore, noise and vibration control may be a greater problem than is anticipated by the consultants. Noise and vibration generated by TTC subway operations is certainly not analogous to that generated by conventional railway activities.

Section 3 - Preliminary Micro Climatic Studies - Stadium Area

In the rail land Environmental Overview Study, several air quality issues were raised. The Morrison Hershfield

study is the only portion of the Environmental Report that deals with air quality at any length, and then only in Section 4, Vehicle Exhuast and Salt Aerosol Dispersion Assessment. This study is very limited in scope and does not adequately deal with the air quality issues which this Ministry feels are significant.

The only reference to dustfall occurs on the last paragraph of page 25, in which it is suggested that total suspended particulates (TSP) are not unusual in the Precinct as similar concentration levels are present in other areas of Toronto (Harbourfront, CNE). Although it may be valid to assume that Harbourfront would be subjected to similar TSP levels as the rail lands, it is misleading to suggest that this situation is not unusual, compared to the rest of Toronto. From the Ministry of Environment's data, it is evident that this part of the City is subjected to dustfall levels in excess of provincial criteria, and in fact experiences some of the highest dustfall levels in Metropolitan Toronto. Although development of the rail lands may improve this particulate loading time, it is suspected that much of this loading is the result of re-entrainment of particulate matter from roadways, railways, etc. by vehicular movement. Therefore, it is anticipated that dustfall levels will continue to exceed provincial criteria. We strongly recommend that the subject of dustfall and TSP be more thoroughly discussed in the Environmental Report.

In this section the consultant have assessed the impact of nitrous oxides, carbon monoxide, and hydrocarbon emissions from vehicles utilizing the Gardiner Expressway. Engineers within the Air Resources Branch of this Ministry, experienced with predictive modelling of air contaminants, have been asked to evaluate the simulation model used in this case. Pending the outcome of this evaluation, two shortcomings of the Morrison Hershfield analysis seem obvious. First, there are several other sources of these above-mentioned contaminants that may have a significant effect (e.g. Lakeshore Blvd., the Esplanade, Front Street West). Secondly, there are emissions from these sources, such as vehicle exhaust odours and smoke emissions, that can prove very annoying. These are not impacts that can be modelled readily, but can be highly significant, particularly with the concentration of automobiles, buses and diesel powered rail vehicles one can expect due to stadium activities.

Two point sources of air contaminants remain in operation on or adjacent to the rail lands, and may impinge on buildings constructed on the stadium precinct. One such source is the Toronto Terminal Railways boiler plant, which is located in the adjacent precinct to the east. Under certain conditions, the natural gas fuel source is interrupted and diesel fuel is utilized. While burning diesel fuel under heavy demand situations, this plant may produce nitrous oxide emissions above provincial criteria for this contaminant to a distance of approximately 800 m. downwind of the stacks. This excess occurs approximately between 50 m. and 90 m. above grade. Similarly, emissions of sulphur dioxide from this facility can be in excess of criteria for approximately 425 m. downwind, between 60 m. and 85 m. above grade. Sulphur dioxide emissions are significant only when natural gas is interrupted and diesel fuel must be utilized.

As well, emissions of sulphur dioxide from the stack of the Toronto Refiners and Smelters Limited plant, located to the west outside the Precinct, can impinge on structures within this planning area. Under certain conditions, SO2 levels in excess of Provincial criteria may extend as far as 2,300 metres downwind of the stack. As with the other source of SO2 mentioned above, this excess would occur at height above grade; in this case between approximately 40 m and 90 m above the Front Street elevation. Any emissions of lead from this stack would not be in excess of provincial criteria at this Precinct.

We recommend that the Microclimatic studies portion of the Environmental Report address these impacts on the Precinct.

Section 4 - Subsoils Investigation
and Contaminant Studies

In general, we concur with the statements made by the consultants, Brown Associates Limited, and with the recommendations with respect to subsoil investigation and contaminant studies to be undertaken in this Precinct. The consultant has indicated to us that in balance, there is a greater requirement for fill materials for development of the rail lands, particularly to the west of John Street, then will actually be excavated from these lands. Therefore, assuming the soils are suitable in quality and structural properties, there is considerable advantage to utilizing these materials on

the rail lands itself as fill material. The ministry of the Environment supports the concept of on-site utilization of these excavated materials, as opposed to transport off-site for disposal.

Having evaluated the consultant's preliminary findings, we can concur with his conclusion that the major soil contaminant problem likekly to be encountered in this area is that of high concentrations of volatile solids and oils and greases. The consultant has suggested that visual inspection (by qualified people) is an appropriate method for identifying such problems, and we concur with this approach. For those materials deemed unsuitable for use on-site, it would be necessary to determine, by analytical methods, the degree of contamination in order to decide on a suitable location for off-site disposal. This activity should be governed by a procedure modelled after the Ministry of the Environment's Lakefill Quality Assurance Program.

The Environmental Report has discussed, in general terms, a procedure for the management of materials to be excavated from building sites in the Precinct. We agree, in principle, with the consultant's suggestions, as outlined above. We recommend, however, that the Environmental Agreement to incorporate a detailed soils management strategy, to the satisfaction of the Ministry of the Environment, the City and the project proponents. Further, in order to faciltate decisions about utilization of excavated materials on-site, to identify soils contaminated by volatile solids and oils and greases, and to make decisions regarding the necessity for further soil sampling and analysis to confirm the degree of contamination, we strongly recommend that the environmental agreement make provision for a suitably qualified, environmental inspector, to be employed on-site on a full-time basis, to monitor construction activities and make decisions regarding excavation and fill operations.

Section 5 - Stormwater Management and Stormwater Quality

This report by Brown Associates Limited, provides a rather brief overview of stormwater management for the Precinct, and makes a number of generalized recommendations. Further detailed documentation of the actual proposed system, both for the constructionphase and the post-construction phase of development will be required. We would strongly recommend that the

environmental agreement incorporate the details of a stormwater management strategy. As stated above, more details regarding actual proposed systems for the management of runoff on-site is required, and this section of the Environmental Report should be elaborated upon.

In the report, it is noted that all of Precinct A, south of the main rail corridor, will drain to a new storm sewer, discharging to the Rees Street slip. The bulkhead wall of the Rees Street slip is currently being reconstructed to allow for the realignment of Queens Quay West through Harbourfront. We have discussed this reconstruction with Environment Canada, who advised that they are unaware of provisions being made at this time to permit a new storm sewer discharge through the reconstructed bulkhead.

The location of the storm drainage outfall must be resolved, to the satisfaction of the Ministry of the Environment and the Harbourfront corporation. As well, there may be implications for the City of Toronto, as the sewer will cross beneath City roads and may have implications for other City services.

Should you require any elaboration or clarification of the above comments, please contact Mr. D.M. Pirie of this office."

(b) Letter dated February 3, 1986, from Mr. G. Mierzynski, Regional Director

"In accordance with your letters dated January 8 and 16, 1986, we have completed a review of the subject document. In general, we find the report to be acceptable as a general expression of the environmental siutation within the Precinct for purposes of identifying issues requiring further consideration and assessment in conjunction with an acceptable Environment Agreement. To date, however, we have not received the additional air quality analysis referenced in your above noted letters.

Our specific comments related to the report are as follows:

1. The analysis for the simulation of noise impact from the stadium was conducted primarily with the assumption of a closed roof structure. Preliminary noise assessment assuming an open stadium indicates that the adjacent residential development will be

subjected to periodic noise levels of 85 to 95 dBA at the face of the residential buildings. In our opinion, this represents a significant noise impact, and a major design constraint.

2. It is indicated in the Morrison Hershfield Limited update report on microclimatic studies that bus parking will be provided along the Esplanade and the northern east-west street in the stadium area. This would suggest a significant potential air quality impact resulting from idling buses on the residential buildings in Block 20.

3. While not objecting to the residential use on Block 20, items 1 and 2 above together with other identified impacts associated with the Gardiner Expressway and the High Line rail line, may require extensive architectural and engineering controls to a level that would necessitate questioning the use of this land for residential purposes. This was not identified by our comments on Official Plan Amendment No. 333 because at the time of responding to the amendment, neither the updated accustical report nor the revised air quality report, were available to this Ministry.

4. Within the Morrison - Hershfield report refrenced above, it is identified that certain emission sources may impinge sporadically on buildings within the precinct levels higher than specified by Ministry criteria. As indicated by the report, further analyses of these impacts would have to be completed. It should be recognized that architectural controls have been utilized on other projects within the City to address similar problems. Where it has been determined that air intakes for the building can be located ouside of the plume and that within the impingement zone, windows may remain closed as required to avoid fumes, it is possible to locate structures within a zone of air contaminant impact. Proper design of the building windows and ventilation however would be essential.

5. With respect to soils, the environmental report represents an acceptable overview which defines the general soils conditions that are likely to be encountered. The level of detail is sufficient for our purposes only on the basis that the

Environmental Agreement will trigger further and more detailed studies.

6. With respect to storm water management and dewatering, our comments are identical to those provided in Section 5 above on soils management.

In sumamry, we trust that the comments provided are satisfactory for your use. Should you or any recipient of copies of this letter have any questions please contact Mr. D. Beach of this office."

(c) Letter dated February 3, 1986, from Mr. Dave Beach, Acting Chief, Approvals and Planning Technical Support Section, Central Region

"Further to your letter of January 27, 1986 and your subsequent telephone conversation with Mr. D. Pirie we have modified the Environmental Agreement (as redrafted by your Dept.) and its appendices to address concerns held by this office. A photocopy of the modified draft is attached for your consideration in finalizing the document. Our suggested modifications are noted by asterisks in the left margin.

In general, we find the format of the document to be acceptable. However, you will note that we have modified it to exclude the Ministry of the Environment as a party to the agreement. We can identify no reason for entering into such an agreement; nor would we have any means for ensuring compliance with it. The Ministry of the Environment will however provide to the City all available technical advice to assist them in administering the Agreement and will ensure that our legislative requirements are addressed.

The principal modifications to the draft made by this office are for the appendices relating to criteria for noise, soils management, industrial decommissioning, groundwater and storm water management.

The modifications to the draft are provided to assist the City in finalizing the document. Should any questions arise we would be pleased to discuss them."

4. Letter dated December 30, 1985 received from G. H. Geddis, Toronto Terminals Railway

"You wrote to me in September requesting comments relative to the IBI Group's Precinct "A" Submission and its Environmental Report which your department is currently reviewing.

Following are the Toronto Terminals Railway's comments concerning the submission.

1. Page 9 - Stadium Pedestrian Access - CN Express building, and Page 14 make similar reference to Plan S3C indicating that the CN Express building can be utilized for pedestrian circulation and linkage to GO Platforms and Union Station. Methodology of the connection with Union Station and for the GO Platforms has to be negotiated in light of T.T.R.'s concerns regarding pedestrian control problems, safety of people and security. Consideration must be given to segregating public pedestrian traffic from office employee traffic.

2. Page 13 - Reference to sanitary sewage gathered in the Precinct and being pumped to the Front Street main sewer. The location of the line across T.T.R. property, specificiations, and the method of installing same will have to be negotiated with T.T.R. These installations must be covered by Agreement and would be subject to rental charges for occupancy of T.T.R. property.

3. Page 15 - Reference to possible GO Transit stop west of Spadina in the Bathurst North GO yard. Adequate enclosures for access routes and platform facilities will have to be provided to ensure T.T.R. concerns regarding safety of passengers and security are satisfied. Also, previous studies by other agencies have been made which outline the possibility of a DRT line along Front Street as well as improvements, reconstruction and extension of Front Street westerly which would overcross the rail corridor west of Bathurst Street. These proposals must be consdered in light of their affect upon the GO Transit stop proposal. T.T.R. will respond to specific proposals when they are made.

4. Reference is made throughout the submission to overbridges at John Street, Peter Street and other various locations. Toronto Terminals Railway will

not permit columns to facilitate these structures within the railway corridor. T.T.R. may also have a problem with respect to the visibility of signals, construction and maintenance requirements, snow control and removal if too many structures are built. The proposal overcrossings should be superimposed upon a T.T.R. corridor track and signal plan in order to evaluate their impact upon the safety of our operations and our future rail plant operational requirements.

5. With respect to pedestrian bridges and road bridges, T.T.R. require that there will be a suitable horizontal covering applied to prevent objects being thrown onto the tracks. Any illumination devices/fixtures on these structures must not adversely affect visibility in the rail corridor.

6. The environmental report should not be limited to just Precinct "A" but rather should study the overall effect of planned development on the rail corridor. T.T.R. is concerned about the impact that proposed structures over and/or adjacent to the railway corridor will have upon snow control and therefore, our ability to operate efficiently. Suggest that the Developer should be responsible for incorporating this type of environmental evaluation in its design and development process. Snow studies should include snow and ice accumulations on the dome, especially if and where the dome overhangs the rail corridor.

The shadowing studies excluded the overhead bridges. With the dome structure and the existing and proposed overhead bridges, crossing the rail corridor, a strobing effect may be created (with regards to visibility) in moving from light to dark sections, etc. These concerns should be addressed.

Architectural design should be addressed. Glare from the dome structure, lighting arrangements, etc. may affect visibility in the rail corridor.

Any proposed high voltage electrical systems under/over crossing or in the proximity of the rail corridor should be addressed, in that the railway signal and communciations systems may be affected.

Minimum clearance requirements for overhead bridges must be firmly establihsed. It is the T.T.R.'s position that

vertical clearance of 23.5 feet from top of rail and side clearance of 11.0 feet from centre line of track plus allowance for curvature and superelevation is acceptable provided that the visibility of signals is not compromised or obscured. If signals were to be compromised or obscured, the developer would be responsible for the cost of any changes/relocation that would be considered necessary by the T.T.R. to overcome the problem. Clearance criteria for any other forms of over building (eg. Domed Stadium) will have to be addressed as separate and individual issues.

As more detailed plans are developed, I would appreciate being informed so that the T.T.R. is afforded the opportunity to make further comment regarding their acceptability in light of our ability to continue to operate in an efficient manner.

APPENDIX 3

A draft of the Environmental Agreement substantially in the form of the draft included in this appendix was forwarded CN, the Commissioner of Public Works, the Medical Officer of Health, the Metropolitan Commissioner of Planning, and the Ministry of the Environment for comment. None of these parties has advised me of any major substantial concern with the Agreement, with the exception of CN, who has expressed concern with the requirement in Section 23 that CN be totally responsible for all fees for the Environmental Consultant and the Specialist Environmental Consultant. (This section is marked with the symbol +.) Included in this draft are certain recommended changes received immediately following this circulation. I will be reporting on other changes following consideration of further written comments. Provisions marked with the symbol * are under discussion with CN. As noted above, Section 23 is marked with the symbol + indicating CN's objection.

THIS AGREEMENT made in duplicate as of the day of , 1986.

B E T W E E N :

CANADIAN NATIONAL RAILWAY COMPANY, a Corporation formed under the laws of Canada (hereinafter called "CN")

OF THE FIRST PART

- and -

THE CORPORATION OF THE CITY OF TORONTO, a municipal corporation formed under the laws of the Province of Ontario (hereinafter called "the City")

OF THE SECOND PART

WHEREAS THE City has adopted and enacted a Part II Plan for the Railway Lands which amends the Official Plan for the City of Toronto.

AND WHEREAS CN has prepared and submitted an Environmental Report and amendments pursuant to Sections 9 and 11 of the Part II Plan.

AND WHEREAS the Part II Plan states the City's policy to designate all of the Railway Lands as an area of site plan control pursuant to Section 40 of The Planning Act, 1983.

AND WHEREAS Section 40 of The Planning Act empowers the City to impose, as a condition of the granting of site plan approval that the applicant for site plan approval, enter into an agreement with the City ensuring the provision of any or all of the facilities, works or matters mentioned in Clause 40(7)(a), of The Planning Act, and the maintenance thereof, or with the provision and approval of the plans and drawings referred to in Subsection 40(4) of The Planning Act.

AND WHEREAS the City is authorized by Section 16 of the City of Toronto Act, 1971, S.O. 1971, Chapter 130 as amended by S.O. 1973, Chapter 213, to enter into agreements with any person respecting the development or redevelopment of the Railway Lands, including the Stadium Precinct.

NOW THEREFORE, in consideration of the premises and covenants herein contained, and in consideration of the payment of $2.00 from the City to CN, the receipt and sufficiency of which

are hereby acknowledged, CN hereby covenants and agrees with the City as follows:

DEFINITIONS

1. In this agreement:

(a) "Applicant" means CN or any successor in title or in interest from CN of lands within the Stadium Precinct who makes an Application for Site Plan Approval.

(b) "Application for Site Plan Approval" means an application for the approval of plans pursuant to Section 40(4) of The Planning Act.

(c) "Commencement Date" has the meaning set forth in Section 39.

(d) "Development Proposal" means a proposal to construct, erect, or place one or more buildings or structures upon a Development Site or the making of an addition or alteration to a building or structure on a Development Site, which addition or alteration has the effect of substantially increasing the size or usability of the existing building or structure.

(e) "Development Site" means a lot or parcel of land within the Stadium Precinct with respect to which an Application for Site Plan Approval has been made pursuant to Section 40 of The Planning Act.

(f) "Environmental Consultant" means the person or firm retained as an Environmental Consultant for the Stadium Precinct pursuant to Section 20 of this agreement, but also includes any associated persons or firms engaged by the Environmental Consultant in order to ensure that full qualified environmental consultant services are provided as required by this agreement.

(g) "Environmental Report" means the Environmental Report entitiled "Railway Lands Precinct "A" By-law Environmental Report" submitted under cover of a letter to Mr. Daniel Burns of the City from Bruce A. Brown, Ph.D. MCIP, P. Eng. dated January 3, 1986, and any supplements or amendments thereto.

(h) An "Environmentally Unsound Condition" means a condition affecting persons and/or the natural environment which does not comply with the environmental guidelines, criteria and standards generally applicable to the City of Toronto or Province of Ontario.

(i) "Hi-Line Railway" means the two CN railway tracks which pass through the Stadium Precinct on an alignment immediately north of Lake Shore Boulevard.

(j) "Infrastructure" means the roads, services and facilities supporting development within the planning area covered by the Part II Plan, including, without limiting the generality of the foregoing, roadways, sidewalks, pedestrian bridges, electrical services, water and gas utilities, pathways, parks, storm and sanitary sewers, but not including any Private Construction Work.

(k) "Metro Pumping Station" means the new waterworks plant proposed to be constructed for the operation of the Corporation of the Municipality of Metropolitan Toronto.

(l) "Medical Officer of Health" means the Medical Officer of Health for the City of Toronto appointed from time to time.

(m) "Ministry" means the Ministry of the Environment for the Province of Ontario.

(n) "OMB" means any panel of the Ontario Municipal Board duly constituted under the Ontario Municipal Board Act R.S.O. 1980, as amended, or any panel duly constituted under such successor legislation to the Ontario Municipal Board Act as may be in force in the Province of Ontario from time to time.

(o) "Part II Plan" means Amendment No. 333 to the Official Plan for the City of Toronto for the Railway Lands which was enacted by the City of Toronto on August 17, 1985, by By-law No. 610-85, including any amendments or modifications thereto.

(p) "Planning Act" means the Planning Act 1983 S.O. 1983 c. 1 or such successor legislation as may be in force in the Province of Ontario from time to time.

(q) "Precinct" means an area of land defined as a Precinct on Map E of the Part II Plan.

(r) "Private Construction Work" means the work of construction, demolition, and associated activities carried out on a Development Site in the course of construction a Development Proposal.

(s) "Railway Lands Zoning By-law" means City of Toronto By-laws No. 611-85 and No. 612-85.

(t) "Section" and "subsection" mean, unless otherwise indicated, a section or subsection of this Agreement.

(u) "Site Plan Approval" means the approval by the City or the OMB of plans pursuant to Section 40(4) of The Planning Act.

(v) "Stadium" means the urban stadium and multi purpose facility permitted to be erected or used in The Stadium Precinct by The Stadium Precinct Bylaw, including any uses contained in the same building as the urban stadium and multi-purpose facility.

(w) "Stadium Precinct" means the Precinct designated with the Letter "A" on Map E of the Part II Plan.

(x) "Stadium Precinct Agreement" means the Agreement respecting the Stadium Precinct entered into by CN and the City pursuant to the Part II Plan, and any amendments thereto.

(y) "Stadium Precinct By-Law" means the proposed zoning by-law of the City of Toronto permitting development within the Stadium Precinct in accordance with the Part II Plan.

In any other case where a word or phrase used in this agreement is not specifically defined herein but is defined in the Part II Plan or the Stadium Precinct Agreement, the word or phrase shall bear the definition ascribed to it in the Part II Plan or Stadium Precinct Agreement.

A. NOISE AND VIBRATION and STADIUM LIGHTING

2. The parties hereto agree that:

(a) the noise criteria/guidelines applicable to the Stadium Precinct are those generally applied by the Ministry throughout the Province of Ontario from time to time, which, at the date of this agreement, are those contained in Schedule A of this agreement; and

(b) that the vibration criteria/guidelines applicable to the Stadium Precinct are those of the International Standards Organization, contained in Schedule A to this agreement, unless the Ministry develops vibration standards which it applies generally throughout Ontario, in which case the Ministry's standards shall replace those of the International Standards Organization as the vibration standards applicable to the Stadium Precinct.

3. In conjunction with an Application for Site Plan Approval for any Development Proposal in the Stadium Precinct, the applicant shall submit a Noise Impact Statement as defined in the May 22, 1974 report from the City Commissioner of Public Works entitled "Effect of Official Plan Change or Rezoning on the Sound Environment", adopted by City Council as part of Clause No. 12 of Buildings and Development Report No. 20 (1974) and any supplement or replacement thereto which has general application to the City of Toronto, prepared by a qualified and experienced noise consultant. The Noise Impact Statement shall contain an analysis of the following:

   (i) the impact of the Development Proposal on the surrounding area;

   (ii) the impact of the surrounding area on the Development Proposal; and

   (iii) the impact of the Development Proposal on itself;

   and shall include specific recommendations for noise and/or vibration abatement measures to be incorporated into the design and construction of the Development Proposal, having regard for the noise and vibration standards applicable in the Stadium Precinct.

4. Plans for the Development Proposal submitted as part of a building permit application for the Proposal shall be certified by a qualified and experienced noise consultant as having incorporated the noise and vibration abatement measures recommended in the Noise Impact Statement referred to in Section 3.

5. Prior to occupancy of any residential or non-residential buildings in the Stadium Precinct, a qualified and experienced noise consultant, together with the architect or engineer responsiblie for the supervision of the construction of the building pursuant to the Building Code Act, shall inspect the buildings and certify in a report to the Commissioner of Planning and Development and the Commissioner of Public Works that all noise and vibration abatement measures shown on the plans referred to in Section 4 respecting the building were properly implemented or, as the case may be, shall identify specific deficiences therefrom which shall be corrected prior to occupancy or prior to such date as the consultants shall stipulate.

6. In conjunction with an Application for Site Plan Approval for the Stadium, the applicant shall submit a study prepared by a qualified and experienced lighting specialist indicating the impact of light emissions from the Stadium on *adjacent land

uses and on the TTR rail corridor, with recommendations for appropriate measures to mitigate such impact as necessary.

7. CN acknowledges that in order to proceed with a residential Development Proposal on a site immediately adjacent to the Hi-Line prior to the permanent removal of the Hi-Line, it may be necessary to limit the operating speed of trains on the Hi-Line to current or reduced speeds, down to 35 kph.

8. CN shall retain or cause to be retained a qualified and experienced noise consultant to monitor and report on noise emissions from the Stadium under various conditions during its first year of operations. The report shall incorporate recommendations with respect to noise abatement measures for the Stadium which would facilitate achieving the applicable noise guidelines and standards for other developments in the Precinct.

   CN shall also retain or cause to be retained a qualified and experienced expert in lighting and illumination to monitor and report on emission of light from the Stadium under various conditions during the first year of operation. The report shall incorporate recommendations with respect to light abatement measures for the Stadium which would eliminate or mitigate adverse effects of light emissions from the Stadium on the surrounding area, including the TTR rail corridor. A copy of both reports shall be submitted to the City and the Ministry.

B. AIR QUALITY

9. Prior to or concurrent with the submission of the first Application for Site Plan Approval for a Development Proposal in the Stadium Precinct, except for the Application for Site Plan Approval for the Metro Pumping Station, CN shall submit to the Commissioner of Planning and Development, the Medical Officer of Health and the Ministry an Air Quality Study of the Stadium Precinct, including all bus parking facilities for the Stadium and an appropriate area around the Stadium Precinct, as determined by the consultant, but, in any event, including Toronto Refiners and Smelters at 28 Bathurst Street and an appropriate study area around this development as determined by the consultant, and the Toronto Terminal Railways Steam Plant at 16 York Street. The study shall be reported on to City Council by the Commissioner of Planning and Development in consultation with the Medical Officer of Health and the Ministry, prior to Council's consideration of the report of the Commissioner of Planning and Development on the first application for Site Plan Approval for a Development Proposal in the Stadium Precinct, except the Metro Pumping Station. This Study shall be prepared by a qualified and experienced

air quality consultant and shall utilize an architectural massing model showing the development concept for the Precinct and the adjacent and relevant developments to be included in the Study, including an architectural scale model of the Stadium. The Study shall include a test of this model in a wind tunnel, and shall identify the air quality conditions affecting the Precinct, including the identification of any Environmentally Unsound Conditions with respect to air quality resulting from both point and line pollution sources affecting the Precinct. The study shall also address the conditions which would exist if the TTR Steam Plant and/or Toronto Refiners and Smelters were no longer operating. The Study shall also indentify any Environmentally Unsound Conditions in the study area around and arising from Toronto Refiners and Smelters which may occur as the result of Development Proposals in the Stadium Precinct. The Study shall also identify appropriate mitigation measures for such point and line pollution sources.

10. In conjunction with an Application for Site Plan Approval with respect to any Development Site in the Stadium Precinct, the applicant shall submit a report prepared by a qualified and experienced air quality consultant with practical knowledge of remedial techniques, which reviews the air quality conditions affecting the Development Proposal, including those conditions identified in the Environmental Report, any air quality problems identified in the Air Quality Study referred to in Section 9, and any other conditions which, in the professional judgment of the consultant, could result in an Environmentally Unsound Condition with respect to air quality within the Development Proposal. The report shall recommend the specific measures to be incorporated into the design and construction of the Development Proposal in order to ensure that the air quality within such Development Proposal will be satisfactory in relation to any air quality standards which may be applied by the Ministry generally throughout the Province. Such measures will be recommended with regard for the desirability of maximizing the fresh air supply in any sealed building. This report shall be circulated to the Ministry for comment.

11. Plans submitted as part of a building permit application for any Development Proposal in the Stadium Precinct shall be certified by an experienced and qualified air quality consultant with practical experience in remedial techniques, together with the architect or engineer responsible for the supervision of the building pursuant to the Building Code Act, as having incorporated the measures recommended in the report referred to in Section 10.

12. Prior to occupancy of any residential or non-residential buildings in the Stadium Precinct, an experienced and

qualified air quality consultant with practical experience in remedial techniques shall inspect the construction and certify in a report to the Commissioner of Planning and Development and the Ministry that all air quality abatement measures shown on the plans referred to in Section 11 have been properly implemented or, as the case may be, shall identify specific deficiences therefrom which shall be corrected prior to occupancy or by such date as the consultants may stipulate.

C. PEDESTRIAN LEVEL WINDS AND RAIL CORRIDOR SNOW STUDY

13. Prior to, or concurrent with, the submission of the first application for Site Plan Approval for a Development Proposal in the Stadium Precinct, CN agrees to submit to the Commissioner of Planning and Development a quantitative Pedestrian Level Wind Study including a wind tunnel test, of the Precinct * and immediately adjacent developments, prepared by a qualified and experienced wind consultant, which utilizes an architectural massing model showing the development concept for the Precinct, including an architectural scale model of the Stadium. This study shall have reference to, among other relevant considerations, the standards for peak gust conditions included in Schedule B to this agreement and to the desirability of maintaining north-south passages for lake breeze ventilation, and shall recommend * any modifications to the overall massing of development in the Precinct or any other measures required to achieve satisfactory pedestrian level wind conditions in the Precinct. This quantitative study will guide future applicants for Site Plan Approval in the design and planning of Development Proposals, and will assist the City in reviewing these Development Proposals by identifying at an early stage potential adverse wind conditions, but it is understood that actual massing and siting of Development Proposals shall be determined at the time of granting Site Plan Approval for such Development Proposals.

14. In conjunction with an Application for Site Plan Approval with respect to any Development Site in the Stadium Precinct, the applicant shall submit a quantitative Pedestrian Level Wind Study of the Development Proposal. Each such study shall utilize a wind tunnel test of an architectural scale model of the proposal, taking into account the conclusions and recommendations of the Quantative Pedestrian Land Wind Study required by Section 13 of this agreement. The study shall indicate the measures which, in the professional opinion of the consultant, should be incorporated into the Development Proposal in order to achieve satisfactory pedestrian level wind conditions on and in the vicinity of the Development Site. Each such study shall have reference to, among other

relevant considerations, the standards for peak gust conditions included in Schedule B to this Agreement.

15. In conjunction with Applications for Site Plan Approval in respect of a Development Proposal for the Stadium and the Development Site immediately west of the Stadium site, the applicant shall submit a snow control study prepared by a qualified and experienced consultant which examines, with reference to the Pedestrian Level Wind Study referred to in Section 13, the impact of the Development Proposal on snow conditions in the TTR Rail Corridor. This study shall indicate the features which, in the professional opinion of the consultant, should be incorporated into the design of the Development Proposal, the TTR rail corridor or any Infrastructure in order to mitigate any adverse snow conditions in the rail corridor resulting from the construction of the Development Proposal.

D. SUN AND SHADE

16. In conjunction with an Application for Site Plan Approval in respect of any Development Site in the Stadium Precinct the applicant shall submit a Sun/Shade Study, prepared by a professional engineer, made with the assistance of a sun/shade simulator which provides a means to orient a model of the Development Proposal with respect to a solar light source so that sun and shade conditions can be simulated with respect to a particular calendar date and time of day. The Sun/Shade Study shall indicate the sun/shade patterns which will be experienced within and caused by the buildings or structures which comprise the Development Proposal. Sun/shade Studies for Development Proposals other than the Stadium shall establish that between 12 noon and 4:00 p.m., locally prevailing time, * April to October, inclusive, shadows from the proposals will not extend onto the Stadium playing field or the seating in the Stadium beyond any shadows cast on the playing field by the Stadium structure itself. All Sun/Shade Studies shall indicate the impact of shadows on the TTR Rail Corridor and shall recommend any feasible remedial measures to be taken in order to minimize any adverse conditions for railway operations which such shadows may cause.

E. TELESAT CANADA

17. In conjunction with any application for Site Plan Approval with respect to any facility of Telesat Canada, the applicant shall submit a report, prepared by a consultant qualified and experienced in the field of safety procedures for the installation and use of radio frequency and microwave devices, which indicates the measures which must be incorporated into the design and construction of the facility in order to comply

with the relevant standards established by Health and Welfare Canada.

18. Plans submitted as part of a building permit application for any Telesat facility shall be certified by the consultant who carried out the study required by Section 16 as having incorporated the measures recommended in the study, and these plans as so certified shall be submitted to the Commissioner of Planning and Development for his inspection, in consultation with the Ministry of the Environment and Health and Welfare Canada, prior to the issuance of a building permit.

F. SOILS

19. The parties hereto agree that no excavation or construction work undertaken after the Commencement Date of this agreement shall commence until the Commissioner of Public Works, after consultation with the Ministry of the Environment and the Medical Officer of Health, has approved the Soil, Groundwater and Stormwater Quality Management Programs referred to in Subsection (a) Section 24.

G. ENVIRONMENTAL CONSULTANT AND SOILS, GROUNDWATER AND STORMWATER MANAGEMENT AND MONITORING

20. The Parties hereto agree that, prior to the commencement of any excavation or construction in the Stadium Precinct undertaken subsequent to the execution of this agreement, an Environmental Consultant shall be retained for the purposes generally outlined in Section 24. The Environmental Consultant shall be selected by the Commissioner of Planning and Development, in consultation with the Commissioner of Public Works, from a list which is to be prepared by CN. The Commissioner of Planning and Development shall also designate, from the said list, an alternate to serve in any case where the Environmental Consultant cannot or will not fulfill the duties ascribed to him by this Agreement. The Environmental Consultant shall be a well-recognized and qualified individual with expertise in the environmental area to be examined and studied.

21. The Commissioner of Planning and Development, in consultation with the Commissioner of Public Works, shall also designate a qualified Specialist Environmental Consultant and an alternate qualified Specialist Environmental Consultant in each of the fields of Water Quality Control and Soil Quality Control from lists of persons or firms with special expertise in those fields, which lists shall be prepared by CN.

22. Before finalizing the lists from which the choices of General Environmental Consultant and Specialist Environmental Consultant will be made pursuant to Sections 20 and 21, CN shall afford the Ministry an opportunity to comment upon the proposed lists.

23. + All fees for the Environmental Consultant and Specialist Environmental Consultant shall be paid by CN and shall not be included in any costs to be shared by the City and CN.

24. The duties of the Environmental Consultant are as follows:

(a) to prepare the Soil, Groundwater and Stormwater Quality Management Programs (hereinafter referred to as the "Quality Management Programs") referred to in Section 19 hereof, for review and approval in accordance with Section 19. The Quality Management Programs shall be prepared with reference to the Environmental Report and other available information and shall:

(i) set out various recommended practices and procedures and alternatives thereto for contractors engaged in excavation, soil disposition and emplacement, dewatering and stormwater management. These practices and procedures shall be appropriate, in the professional opinion of the Environmental Consultant, to ensure that such work will confirm to criteria, guidelines and standards set out and referred to in Schedule C. It is recognized, however, that as work proceeds in the Stadium Precinct new information, field conditions, and the expertise of contactors working on the Stadium Precinct may suggest other or different practices or procedures whereby the criteria, guidelines, and standards set out and referred to in Schedule C may be achieved, and nothing herein shall preclude the adoption by contractors of such practices and procedures, provided always that the Environmental Consultant shall be aware of, and report to the persons listed in subsection (1) hereof upon such practices and procedures as are adopted; and

(ii) set out the specific parameters of the testing and monitoring programs to be carried out by the Environmental Consultant respecting the Quality Management Programs.

(b) To advise CN, other applicants and contractors working in the Stadium Precinct of the recommendations contained in the Quality Management Programs;

(c) prior to any construction in the Stadium Precinct undertaken subsequent to the execution of this agreement, to prepare recommendations for the control of dust during all excavation and construction work undertaken in the Precinct;

(d) to ensure that all contractors working in the Stadium Precinct are aware of the dust control measures referred to in sub-section (c) hereof; and to report to the Medical Officer of Health and the Ministry any incidents where the recommendations are not followed;

(e) to obtain and review all existing technical and analytical data concerning the subject lands, including, but not limited to, the November, 1984 report entitled "Environmental Overview Study for the Railway Lands Steering Group prepared by DelCan Ltd., the Environmental Report and the provisions and Schedules of this agreement, and be familiar with all Ministry of the Environment guidelines and other standards which shall be applied to the development of the Precinct;

(f) to ensure that he is advised, in advance, of any excavation or construciton activity in order to ensure that appropriate personnel are on site during any such activity for purposes of monitoring;

(g) to establish and follow mechanisms for reporting of information, including the distribution of all Routine Reports or Special Reports, results of analyses, and minutes of meetings related to his functions;

(h) to keep records of such matters as time, duration, rate and location for discharge of surface or groundwater from excavations, and to conduct and record field or laboratory tests as are required by the Quality Management Programs referred to in sub-section (a) hereof to determine effluent quality, retaining, as necessary, representative samples of effluents for future reference or comparison;

(i) to document the design, location, size and use of any special structures, or treatment procedures used in order to comply with the Stormwater Management and Dewatering of Groundwater provisions of the Quality Management Programs referred to in sub-section (a) hereof;

(j) during excavation to keep records of all activities, including temporary stockpiling of materials onsite, and to record location and volumes of soil placed on site, and volumes of materials removed offsite, and to conduct such field and laboratory tests and analyses as are required by the Quality Management Programs referred to in sub-section (a) hereof to ensure soils for each destination conform to the standards or

guidelines set out in Schedule C to this agreement, retaining, as necessary, representative samples of soils materials for future reference;

(k) during construction, to keep detailed notes or logs which will be supplemented with measurements, calculations, sketches, plans, sections or photographs, in order to document conditions and activities which take place; and to conduct such field tests and take samples for laboratory analyses as are required by the Quality Management Programs referred to in sub-section (a) hereof, in order to ensure that appropriate standards or guidelines are achieved with respect to quality of soil or groundwater;

(l) to prepare periodic but at least bi-monthly Routine Reports to the Ministry, CN, the Commissioner of Public Works, the Commissioner of Planning and Development, and the Medical Officer of Health, whenever activities take place within the Precinct, summarizing activities which took place during that period, and containing:

(i) records of volumes, numbers of truckloads, measurements, or sketches and plans to supplement such information;

(ii) results of field testing and laboratory analyses available at the time of report issue; and

(iii) comparison of such results to established standards or phytotoxicological guidelines, including those standards and guidelines included or referred to in Schedule C to this agreement.

(m) where such unusual soil or groundwater conditions require special testing procedures or a change in onsite practices for a contractor, such as determining a special place of disposal for soils, to prepare and expedite circulation of a Special Report to the Ministry, CN, the Commissioner of Public Works, the Commissioner of Planning and Development, and the Medical Officer of Health, which includes details of the unusual conditions, results of tests and analyses, and such recommendations regarding the unusual conditions which the Environmental Consultant has made or intends to make in respect thereof, and, if made, a description of the extent to which they have been followed;

(n) to recommend, where appropriate, that soils be removed to a controlled environment, (i.e., laterally confined, internally drained, or covered with clean fill to a minimum depth) and to report to those persons referred to

in subsection (m) of this Section the extent to which such recommendations have been followed;

(o) from time to time, to review his duties and methods of reporting with the Ministry;

(p) to recommend sound environmental practices required for the decommissioning of former buildings and structures, excavation, removal of materials from site, filling, servicing, or construction of buildings or structures within the Precinct, and to include in the relevant Routine Report the extent to which such recommendations have been followed;

(q) to fulfil his responsibilities under the other Sections of this agreement;

(r) notwithstanding the generalities of the above subsections, to provide effective field monitoring of the Soil, Groundwater and Stormwater Quality Management Programs referred to in sub-section (a) of this Section, to recommend appropriate place of disposal or use of demolition spoils and all excavated soils, to identify any constraint or limitation in soil or groundwater disposition, to provide effective and practical advice to the General Contractor or his representatives, and to assist with the redevelopment of the Precinct in a safe and environmentally sound manner.

25. The Soil, Groundwater and Stormwater Quality Management Programs referred to in sub-section (a) of Section 24 shall be additional to and consistent with the report required by Section 5.02(2) of the Stadium Precinct Agreement, which requires the submission to the Commissioner of Public Works of a report respecting the placement of fill material on existing ground to achieve approved grades.

Reporting of Environmentally Unsound Conditions

26. In any case where, during excavtion for or construction of any Development Proposal or Infrastructure work, the excavation or the emplacement of fill, surface water run-off and/or dewatering discharge would cause Environmentally Unsound Conditions the Environmental Consultant shall promptly advise:

(a) the contractor or contractors whose work is causing or threatens to cause the Environmentally Unsound Condition;

(b) the Ministry;

(c) the Commissioner of Public Works, the Commissioner of Planning and Development, and the Medical Officer of Health; and

(d) CN, or in the case of a Development Site, the Applicant of the nature of the problem and shall provide them with copies of all reports, data, studies, or other information upon which the Environmental Consultant has relied in making his decision that an Environmentally Unsound Condition has been caused or would be caused by the excavation or construction work.

Recommendations

27. The Environmental Consultant, upon having identified an actual or potential Environmentally Unsound Condition, shall promptly make such recommendations in respect of the elimination, alleviation or mitigation thereof as seem reasonable to him having regard to all of the following factors:

(a) the degree of potential harm posed to person by the condition;

(b) the generally accepted and followed procedures for dealing with similar conditions elsewhere in the Province; and

(c) the scale and extent of the condition in relation to the Development Proposal or Infrastructure work.

Manner of Issuing Recommendations

28. The Environmental Consultant shall:

(a) in any case where the excavation or construction work poses an urgent Environmentally Unsound Condition, advise the contractor or contractors whose work is causing or threatens to cause the Environmentally Unsound Condition orally of his recommendations and then, within 24 hours after giving such oral recommendations, deliver a written version thereof and a written description of the extent to which his recommendations were followed to the persons mentioned in subsection (b) and, in any other case,

(b) provide a written statement of his recommendations in respect of the condition to:

(i) the contractor or contractors whose work is causing or threatens to cause the condition;

(ii) the Ministry;

(iii) the Commissioner of Public Works, the Commissioner of Planning and Development, and the Medical Officer of Health; and

(iv) CN, or in the case of a Development Site, the Applicant; and within 48 hours of delivering any written recommendations,

(c) submit to the persons mentioned in sub-section (b) a written account of the extent to which his written recommendations have been followed.

Specialist Consultation

29. If any of the persons listed in Sections 24(l), 24(m), 26, or 28 are dissatisfied with the reports or the recommendations in the Quality Management Programs or made pursuant to Sections 24, 26, 27, or 28, as the case may be, any one or more of those persons may require that a Specialist Environmental Consultant in the particular area of expertise with which the reports or recommendations in question are concerned review the reports and recommendations.

30. The Specialist Environmental Consultant shall review the reports or recommendations, as may be, and may,

(a) with respect to the reports:

(i) recommend that the reports be done more frequently, or less frequently, and

(ii) recommend that the reports incorporate more, less, or different data, provided that any changes to the data will be consistent with the objective of eliminating any Environmentally Unsound Condition; and with respect to the recommendations;

(b) recommend, subject to the approval of the Commissioner of Public Works after consultation with the Ministry of the Environment, that the recommendations of the Environmental Consultant be altered, revoked, or supplemented.

31. CN shall ensure that all construction contracts for Infrastructure work or Development Proposals in the Stadium Precinct contain clauses whereby the contractor:

(a) acknowledges that he is aware of the terms and conditions of this Agreement;

(b) agrees not to hinder or obstruct the Environmental Consultant or the Specialist Environmental Consultant in the preformance of his duties; and

(c) acknowldges that access for emergency vehicles to the TTR Rail Corridor must be maintained at all times.

CN shall ensure that emergency vehicle access to the TTR Rail Corridor is maintained at all times.

H. STATUTORY AUTHORITY FOR AGREEMENTS

32. This agreement is entered into pursuant to the City of Toronto Act, 1971, S.O. 1971 c.130 as amended by S.O. 1973, c.213, and any agreements made with CN or any other applicant respecting the matters dealt with in this agreement will be made either pursuant to Subsection 40(7)(c) of The Planning Act or in a Special Environmental Agreement made pursuant to the City of Toronto Act, 1971 S.O. 1971 c.130 as amended, as may be appropriate.

33. In conjunction with any application for Site Plan Approval, CN or the City may require that such obligations as are imposed upon CN by this Agreement with respect to a Development Proposal or Development Site be secured in a separate Special Environmental Agreement made with the Applicant having the characteristics set out in Section 34 hereof, and upon the making of a Special Environmental Agreement, the City shall consent to the discharge of this Agreement from the Development Site, and shall release and discharge CN from all obligations hereunder with respect to the Development Site.

34. A Special Environmental Agreement shall:

(a) relate to a specific Development Proposal on a Development Site;

(b) contain covenants binding upon the original party and upon subsequent successors in title;

(c) prohibit the commencement or carrying out, as the case may be, of any work of demolition or construction in pursuance of the Development Proposal except in accordance with the terms of the Special Environmental Agreement.

(d) be expressly provided to be supplementary to any agreement made pursuant to Subsection 40(7)(c) of The Planning Act;

(e) terminate upon the termination or amendment of the Agreement made pursuant to Subsection 40(7)(c) of The Planning Act, in conjunction with which the Special Environmental Agreement is made; and

(f) Subject to the provisions of the Registry Act or the Land Titles Act, as the case may be, be registered against title to the Development Site.

35. Nothing in this Agreement shall be construed as expanding, contracting or in any way altering the jurisdiction of the City or of the OMB granted by Section 40 of The Planning Act. To the extent that this agreement, or any subsequent Special Environmental Agreements, are not contemplated by Section 40 of The Planning Act such parts of this Agreement or of a subsequent Special Environmental Agreement shall be deemed to have been made pursuant to the City of Toronto Act, 1971.

I. ENVIRONMENTAL REPORT AND AMENDMENTS TO CRITERIA, GUIDELINES AND STANDARDS

36. The Parties hereto agree that they shall each be guided by, among other things, the factual conclusions of the Environmental Report.

37. Where any criteria, guidelines standards referred to in this Agreement are amended from time to time such amended criteria, guidelines and standards shall not be applied with retroactive effect to any Site Plan Approvals received or any work done in the Stadium Precinct.

J. NONAPPLICABILITY OF ARBITRATIONS ACT

38. The Arbitrations Act shall not apply to any deliberations or decisions under this agreement.

K. COMMENCEMENT AND TERMINATION OF THIS AGREEMENT AND OTHER MATTERS

39. This Agreement shall commence on the date of its execution by CN and the City, but shall impose no liabilities or obligations upon either CN or the City unless and until each of the following three events has occurred:

(a) the Part II Plan has fully, finally and actually come into force with all periods of appeal therefrom expiring;

(b) the Railway Lands Zoning By-law has fully, finally and actually come into force;

(c) the Stadium Precinct By-law has fully, finally and acutally come into force;

(d) the covenants and obligations of the City under this Agreement and the Precinct Agreement required to be approved by the OMB have been approved by the OMB with all periods of appeal therefrom having expired and the City having been duly authorized to execute this agreement.

On the date that the last of the above four events occurs (the "Commencement Date"), each of the parties hereto shall become bound by the obligations and liabilities hereof, provided always that CN and the City agree that CN may elect, by notice in writing to the City, to waive the requirement that the events described in sub-sections (a), (b) and (c) above must occur before its obligations and liabilities under this Agreement becomes binding upon it, and upon receipt by the City of the notice in writing from CN electing to waive any of (a), (b) or (c) or any of them, as the case may be, then those events so waived shall be conclusively deemed to have occurred on the date of receipt of such notice for the purposes of determining the Commencement Date. At the request of either CN or the City, both parties will execute a joint acknowledgement as to the date of occurrence of the Commencement Date.

40. CN acknowledges that, notwithstanding by reason of it being a railway company or for any other reason, it may not be subject to the jurisdiction of the City under the Planning Act or the City of Toronto Act 1971, as amended, CN will be bound, with respect to all matters concerning the Railway Lands, by all proper and lawful exercises of the City's authority in planning matters, pursuant to the Planning Act or the City of Toronto Act 1971 as amended. Nevertheless, CN and the City enter into this Agreement to facilitate the development of the Railway Lands and acknowledge that such should not be interpreted as recognition that the City has any planning or development jurisdiction over CN in connection with the development of the Railway Lands, nor that the City does not have any such jurisdiction.

41. A notice, demand, request, payment, consent or objection required or contemplated to be given or made hereunder shall be in writing and either delivered personally or sent by telegram, telegraph, telx, telecopy or other means of electronic telecommunciation or by registered mail postage prepaid addressed as follows:

(a) in the case of CN:

CN Real Estate
145 King Street West
Toronto, Ontario
M5H 1J8

(Attention: Vice-President, Development)

(b) in the case of the City:

City of Toronto
20th Floor, East Tower
City Hall
Toronto, Ontario
M5H 2N2

(Attention: City Clerk, copy to
Commissioner of Planning and Development)

or such other address of which either party may from time to time notify the other in writing. The time of giving or making such notice, demand, request, consent or objection shall be (i) if delivered or sent by means of electronic telecommunication, when so delivered or sent, (ii) if mailed in Canada, other than during an actual or threatened postal disruption, or the second Business Day following the date of mailing, and (iii) otherwise when received. As a courtesy only, and without in any way affecting the City's Legal rights hereunder, the City shall provide copies of notices sent to CN to such persons as CN may identify from time to time.

42. (1) Upon the Commencement Date, this Agreement may be registered by the City or CN on title to the Stadium Precinct and any lands in which the City is to be conveyed any interest. No registrations of this Agreement or of any legal, equitable or contingent interests arising out it shall be effected until the Commencement Date.

(2) In the event of development of any Development site within any Precinct and provided CN is not otherwise in default of any provision of this Agreement, relating to such Development Site or of any other provision that is of a major nature that materially affects the development or use of the Stadium Precinct, the City shall release the owner of such Development Site from any obligations of CN hereunder to the extent that such obligations have been completed with respect to such Development Site and shall on request consent to a discharge against such

Development Site to the extent any obligations do not directly affect such Development Site.

(3) So long as CN is not in default under the terms of this Agreement relating to such Development Site or of any other provision that is not of a major nature that materially affects the development or use of the Stadium Precinct, the City will consent to the discharge of this Agreement from any parcel of land against which a development agreement made with the City pursuant to Section 40 of the Planning act has been registered to the extent of the obligations hereunder relating to such parcel having been satisfied or incorporated in such development agreement.

(4) Upon the satisfaction of all or any part of the obligations under this Agreement, the City will provide upon the request of CN an acknowledgement to CN, or such other interested party as CN may direct, that this Agreement has been totally or partially discharged by performance, as the case may be and to the best of the City's knowledge and belief as to the status of any remaining work or defaults hereunder. The City shall provide such written acknowledgement within a reasonable period of time, from time to time, at CN's reasonable request.

(5) The obligations of CN under this Agreement may be assigned to any successor in interest of the Stadium Precinct or any part hereof, and, provided the City has consented in writing to such assignment and to the release of CN, CN shall be released from all obligations hereunder with respect to such lands or their development. CN acknowledges that the City shall be under no obligation to consent to any such assignment or release.

L. SUCCESSORS AND ASSIGNS

43. This Agreement will, in any event, terminate and all obligations of CN and the City under it shall cease to exist, and neither party shall be responsible for any damages, upon coming into effect on or before the Commencement Date of a by-law amending the Stadium Precinct By-law to which amendment CN does not indicate its consent in writing.

44. This Agreement shall enure to the benefit of and be finding upon the parties hereto and their respective successors and assigns.

IN WITNESS WHEREOF the Parties hereto have affixed their respective corporate seals attested to by the signatures of their respective proper officers duly authorized in that behalf.

) CANADIAN NATIONAL RAILWAY COMPANY

) Per: _____
C/S

) Per: _____

) THE CORPORATION OF THE CITY OF TORONTO

) Per: _____
C/S

) Per: _____

SCHEDULE A

NOISE AND VIBRATION CRITERIA/GUIDELINES

NOISE

1. All buildings shall be designed so that interior spaces will experience sound exposures, due to normal environmental sources, not in excess of those shown in the table below, for the listed or similar uses.

Parameter/Time Period	Max. (dBA)
Residential	
Bedrooms, sleeping quarters, etc. (Time period 23:00 - 07:00	40
Living/Dining Rooms (Time period 07:00 - 23:00)	45
Other Rooms (Time period 07:00 - 23:00)	45
Non-residential	
Hotel, motel (Time period 23:00 - 07:00)	40
Private office, conference room, etc.	45
General office, retail stores	50

* Leq = energy equivalent sound level in A-weighted decibels (dBA)

NB For rail traffic sources an adjustment factor of +5 dB must be applied to the predicted sound levels to account for the nature of train noise, including the higher peak levels and lower frequency of train noise.

2. Where the outdoor sound exposure (in terms of Leqs for the time period 2300 to 0700 hrs) at night, on the face of a residential building and due to normal environmental sound

sources including sound generated by the Stadium, exceeds 55 dBA, means must be provided to permit windows to remain closed, by way of an air conditioning system for each affected suite.

3. Noise sensitive outdoor amenity spaces specifically associated with residential units and intended for passive recreation uses shall be so designed and/or sheltered from the normal environmental sound sources to experience sound exposures not in excess of Leq daytime (Time period 07:00 - 23:00) of 55 dBA. An excess of 5 dBA over the criterion of 55 dBA shall be considered acceptable where the implementation of noise mitigation to achieve the criterion would have adverse impact on other aspects such as sun, shadows, access, safety, or the relevant factors. A maximum excess of 10 dBA shall be considered acceptable where all mitigation measures considered technically and economically practicable have been implemented, taking into account all of the other relevant factors.

VIBRATION

All buildings shall be designed so that interior spaces will experience vibration exposures, due to normal environmental sources, not in excess of that in the table below for the listed or similar uses.

ISO (International Standards Organization) Guidelines

Residential

Day - 78-84 dB re 1 micro inch per second in each 1/3 octave band above 8 Hz (7.9 to 15.8 x 10 -3 inches/sec)
Night - 75 db re 1 micro inch per second (5.6 x 10 -3 inches/sec)
Applies to individuals pass-by's

Non-Residential

Hospital, theatre: anytime - 72 dB re 1 micro inch per second
Office: anytime - 84 dB re 1 micro inch per second. Applies to individual pass-by's

SCHEDULE B

PEAK GUST CONDITIONS

The following peak gust conditions should not be exceeded for more than 1% of the time if comfortable conditions are to prevail:

ACTIVITY	1% PEAK GUST SPEED, km/h SUMMER	WINTER
Sitting	29	N/A
Standing	37	27
Walking	46	34
Occasional Walking	66	48

(From Environmental Report - p.4 of "Preliminary Microclimatic Studies" Section, dated July 11,1 985)

SCHEDULE C

SOIL, GROUNDWATER AND STORMWATER STANDARDS, CRITERIA AND GUIDELINES.

Soil Management

The Stadium Precinct is in a designated control area of the Lakefill Quality Assurance Program and soil testing of the entire area shall be required.

Where soil quality meets the criteria contained in Appendix I for residential use and organic contamination is not suspected, no additional soil control measures need be considered for soils to be retained on site.(1)

Where soil is required to be removed from the site, testing in accordance with Appendix II shall be carried out. Where soil quality meets these criteria and organic contamination is not suspected, unrestricted off-site disposal may occur.

Where the soil criteria of Appendix II are exceeded, off-site on-land re-use shall be determined in accordance with Appendix III and with consideration of organic contamination. Specifically, where the criteria for the restricted land use is exceeded or organic contamination exists, disposal shall be at a certified waste disposal site approved for acceptance of such materials and shall comply with Ontario Regulation 309. (Revised Regulations of Ontario, 1980 and amended to Ontario Regulation 464/85 under Enviromental Protection Act (General Waste Management) November 1985).

Where the soil quality does not meet the criteria for on-site use or where off-site disposal is required and/or organic contamination is suspected, the Environmental Consultant shall file a report to the City and the Ministry of the Environment outlining the soil management techniques appropriate for the quality of the soil encountered.

The report shall:

1. Detail the soil quality;

2. Outline off-site soil disposal techniques, if required;

3. Outline on-site management, and disposal requirements;

   (a) during construction (temporary storage, transfer, etc.,) and;

(b) for final on-land disposal.

4. Only soils meeting the requirements of Appendix I for residential use can be used for surface fill, i.e. within 20 cms. below final grade for subsequent covering by topsoil.

5. The report shall specify off-site disposal of the soils in accordance with the requirements contained in Appendix II and III and Ontario Regulation 309.

Decommissioning of Industrial Sites

Shutdown, demolition and removal of industrial buildings, and site restoration shall follow the "Guidelines for Decommissioning (Shutdown) of Major Industrial Sites in Ontario" (Ontario Ministry of the Environment, June, 1984). Soil and site restoration shall follow the requirements of the Soil Management section of these guidelines.

Stormwater Management and Dewatering of Groundwater

Sediment and soil erosion shall be controlled on site during the construction phase.

Where the soil conditions exceed the Lakefill Quality Assurance criteria, the level of stormwater management control shall be increased to include retention facilities and where necessary filtered discharge to essentially remove all suspended solids in the effluent discharge stream.

Design of the site specific stormwater management and dewatering discharge systems shall have regard for the water quality goals, policies and objectives of the Ministry of the Environement and shall require all that is practicable to ensure total control of the restricted substances specified on Appendix II and to ensure that the quality of the receiving water body is not changed adversely. Discharge to the sanitary sewer system(2) may be necessary or some other alternative means of treatment.

1. The site is defined as "one property and includes nearby property owned or leased by the same person where passage from one property to another involves crossing, but not travelling along, a public highway."

2. Discharge to any sewer may require the approval of the Metro Commissioner of Works and/or the City Commissioner of Public Works.

APPENDIX I TO SCHEDULE C
UPPER LIMITS OF NORMAL CONCENTRATIONS AND RECOMMENDED CLEAN-UP CRITERIA FOR SOIL CONTAMINANTS

(based on phytotoxicity unless indicated otherwise)

Parameter Normal dry weight (Concentration)	Upper limit of normal (0-5 cm) (MOE data)		Phytotoxicology Section Recommended Clean-up Criteria for Redevelopment of Industrially-contaminated Lands	
			Proposed Redevelopment	
	urban	rural	Industrial	Residential
ph	-	-	6-8	6-8
EC(ms/cm)	-	-	2	2
SAR	-	-	15	15
Nitrogen(%)	-	-	0.6	0.6
Copper(ppm)	100	100	300	300
Zinc(ppm)	500	500	800	800
Lead(ppm)	500	150	1000*	500*
Nickel(ppm)	60	60	200	200
Cadmium(ppm)	4	3	8	4*
Chromium(3+)(ppm)	50	50	1000	1000
Mercury(ppm)	0.5	0.2	2*	1*
Oil & grease(%)	-	-	2.1***	2.1***
Molybdenum(ppm)	3	-	40	5**
Silver(ppm)	1.5	-	50	25
Arsenic(ppm)+	20	10	50	25
Selenium(ppm)+	2	2	-	5**

* Criteria based on human health considerations
** Criteria based on animal health considerations
*** 2% for weathered oil; 1% for fresh oil
\+ Arsenic and selenium criteria are tentative.

APPENDIX II TO SCHEDULE C
MOE LAKEFILL QUALITY GUIDELINES

Materials to be used as fill at lakefill projects shall satisfy MOE's dredge spoils disposal guidelines for open-water disposal as outlined in MOE's Construction Handbook (1976)

The parameters to be analyzed for and the guideline for each are listed below:

Parameters Under Strict Control	Guideline ppm (parts per million)
*1. Mercury	0.3
*2. Polycholrinated Biphenyls (PCBs)	0.05
*3. Lead	50.0
*4. Cadmium	1.0
*5. Oil & Grease	1500.0
6. Volatile solids (loss on ignition at 600 degrees celsius)	80,000
7. Total Phosphorus	1,000
8. Arsenic	8.0
Parameters to be Assessed on a Case-by-Case Basis	
9. Copper	25.0
10. Zinc	100.0
11. Total Kjeldahl Nitrogen	2,000
12. Chromium	25
13. Iron	40,000
14. Nickel	25
15. Cobalt	50
16. Silver	0.5
17. Cyanide	0.1
18. Ammonia	100

*High priority chemical parameters, i.e. exceedance of any of these parameters would render materials unacceptable for lakefilling

All potential fill samples must be analyzed for the first eight parameters (1 to 8). The need to analyze for parameters 9 to 18 shall be assessed on a case by case basis and shall be influenced mainly by past land use and disposal activities.

If contamination in excess of the Guidelines occur only in the surface layer(s), this layer(s) is to be stripped off and disposed of appropriately. Any layer shall be considered contaminated if more than 50 percent of the samples or the arithmetic mean

concentrations of the parameters exceed the quality guidelines. Only a localized portion of the site is contaminated, disposal of the soil from that area will be decided upon on a case by case basis.

The sampling and the analyses of borehole soil samples are the responsibility of the proponent.

Recommended Sampling Program

Borehole Location

1. Set up a GRID system for AREA to be EXCAVATED.

2. For AREAS equal to or less than 0.05 hectare (500 m2 or 5,500 ft2), the number of boreholes should be at least three, aligned diagonally in the longest direction.

3. For AREAS greater than 0.05 hectare, but less than 0.1 hectare, the number of boreholes should be increased to at least five.

4. For AREAS greater than 0.1 hectare, the number of boreholes required will be dependant on the size of the proposed excavation.

5. At least one borehole should be located in each existing or previous building location and in each area used for waste disposal.

The above represents a minimum for borehole locations. Alternative methods for selecting boreholes will be accepted, provided the proponent can demonstrate adequate areal coverage for the site to be excavated. The proponent is advised to discuss with the MOE staff the network of boreholes before sampling begins.

Borehole Sampling

It is recommended that composite samples be taken at four depth intervals:

1. 0 to 25 centimetres.

2. 25 centimetres to 1 metre.

3. 1 metre to 3 metres.

4. 3 metres to depth.

In collecting the samples, care should be taken to ensure all fine-ground materials are retained. Care should also be taken to ensure that the materials are well mixed and that the composite samples are truly representative of the depth intervals.

It is suggested that the following, additional information be collected:

1. Evidence of oil or other potential contaminant, e.g. paint, scrap metal, etc.

2. Particle size - sand/silt/clay.

3. Colour.

4. Location of boreholes.

5. Log of core.

Please note that borehole sampling and analyses of the samples are the sole responsibility of the proponent.

APPENDIX III TO SCHEDULE C

Table 1
Dredged Material Model Classification Criteria

PARAMETER	OPEN WATER DISPOSAL	UNRESTRICTED LAND USE	RESTRICTED LAND USE
(1A)			
Cadmium	1.0	1.6	4.0
Lead	50.0	60.0	500.0
Mercury	0.3	0.5	0.5
PCB's	0.05	2.0	2.0
(1B)			
Loss on ignition	6.0%		
Oil & Grease	1500		
Total Phosphorus	1000		
Total Kjeldahl Nitrogen	2000		
Ammonia	100.0		
Grain size			
Visual Description			
(2)			
Arsenic	8.0	14.0	20.0
Copper	25.0	100.0	100.0
Zinc	100.0	220.0	500.0
Chromium	25.0	120.0	120.0
Iron	10,000.0	350,000	350,000
Nickel	25.0	32.0	60.0
Cobalt	50.0	20.0	25.0
Silver	0.5		
Cyanide	0.1		
Molybdenum		4.0	4.0
Selenium		1.6	2.0

ALL UNITS PPM UNLESS OTHERWISE SPECIFIED

* ADDITIONAL PARAMETERS MAY BE REQUESTED BY THE REVIEWER BECAUSE OF KNOWN DISCHARGES.